MODERN PACKAGING

March 1946

R v. 19[illegible] Mar. - Aug. 1946

NEWS!

LOAD-LOK* ADHESIVE ENDS SHIPPING LOSSES!

*Reg. applied for

Properly Glued Carload Shipments Show Breakage Reductions Up To 100%

Here's the shipping record proof of one industry. A *seven carload liquor shipment shows:* 1 car — 5 bottles broken; 1 car — 2 broken; 3 cars — none broken; 2 cars — one broken in each. A *three car shipment shows:* No breakage. Yet previous unglued shipments show a breakage average of 30 to 120 bottles per car. A *1700 case shipment of quart containers shows:* 4 broken bottles. Previous unglued breakages ran as high as 90 bottles per car.

All of these glued-load shipments were long distance. All were properly unitized with *LOAD-LOK!*

LOAD-LOK is a special National adhesive. It *unitizes* the loading of canned goods, light bulbs, china, bottled goods and all other fragile or crushable materials — regardless of their containers. Carload and truckload shipments are *unitized* into floating *glued loads* that successfully withstand side sway and all shocks of car movements . . . and greatly reduces dunnage and bracing.

LOAD-LOK is automatically applied in two parallel strips to the bottom surface of each shipping unit . . . which is then lifted off your regular loading conveyor and glued into the *unitized* load. LOAD-LOK has a high shear strength which prevents sidewise or lengthwise shifting of the stowed units. Yet, a single sharp upward blow of the hands, against its low tensile strength, releases each unit for easy unloading. The glue cost is insignificant. And the only equipment required is an inexpensive glue pan installation on your loading conveyor.

LOAD-LOK has been endorsed by leading carriers for both small and large shippers. Full details of this new handling practice are available in a new handbook: GLUED LOADS. Write for your copy — NOW!

Offices: 270 Madison Avenue, New York 16; 3641 So. Washtenaw Avenue, Chicago 32; 735 Battery Street, San Francisco 11, and other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto. In England: National Adhesives, Ltd., Slough.

National ADHESIVES

National also produces adhesives for: Bottle Labeling, Can Labeling, Carton Sealing, Package Wrapping, Shipping Case Sealing and Labeling, Revenue Stamping, Box Forming, Bag Making, Tube Winding.

Tech

TECHNOLOGY DEPT.

A D A P T A B L E

THE PHOENIX C T CAP is like your favorite fedora—adaptable. It is adaptable to packages tall or small, wide or narrow, gay or dignified. Applied either by hand or machine, it seals foods, drugs, cosmetics, wines, liquors, household chemicals—all manner of products in glass. A page could be used to list the many abilities of the Phoenix C T, productwise and packagewise, but a word to the closure-wise is sufficient—*adaptable!*

Top wear for glassware

PHOENIX METAL CAP CO.
Chicago 8 and Brooklyn 18

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MODERN PACKAGING

VOLUME 19 — MARCH 1946 — NUMBER 7

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General

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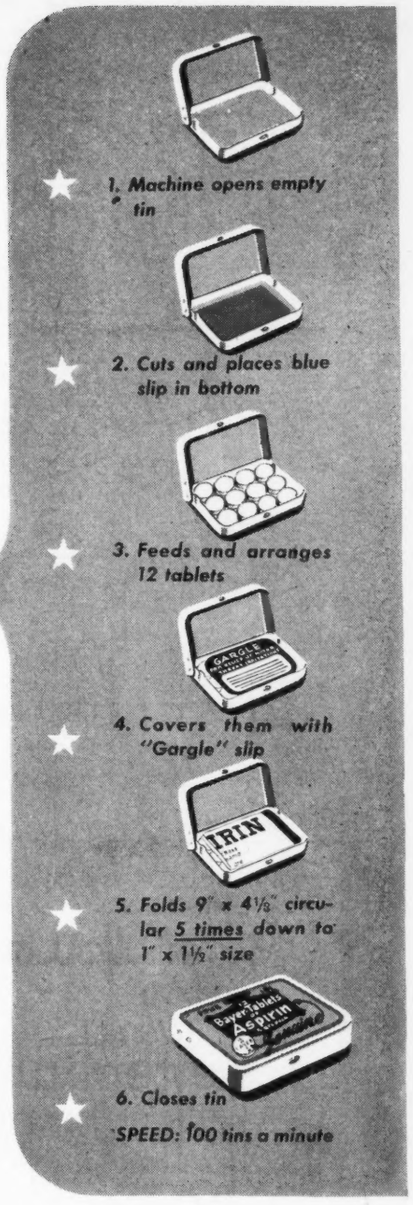
COVER—From oil wells are derived the petroleum waxes that give moisture protection to milk containers, ice cream cartons and other wax-coated packages. The symbol of an oil derrick and a diagram of earth strata where oil is found were used by Peter Piening to tell the story of wax coatings for packaging on this month's cover, the third in our series illustrating the origin of basic packaging materials.

6 packing operation for Bayer Aspirin


1. Machine opens empty tin
2. Cuts and places blue slip in bottom
3. Feeds and arranges 12 tablets
4. Covers them with "Gargle" slip
5. Folds 9" x 4⅛" circular 5 times down to 1" x 1½" size
6. Closes tin
SPEED: 100 tins a minute

More than 10 years ago the Bayer Company approached the Redington engineering staff with the problem of *completely* packing its well known tin of Bayer Aspirin *by machine*. Complicated problems such as this were not new to Redington. A highly efficient machine was produced operating at speeds of 100 tins a minute.

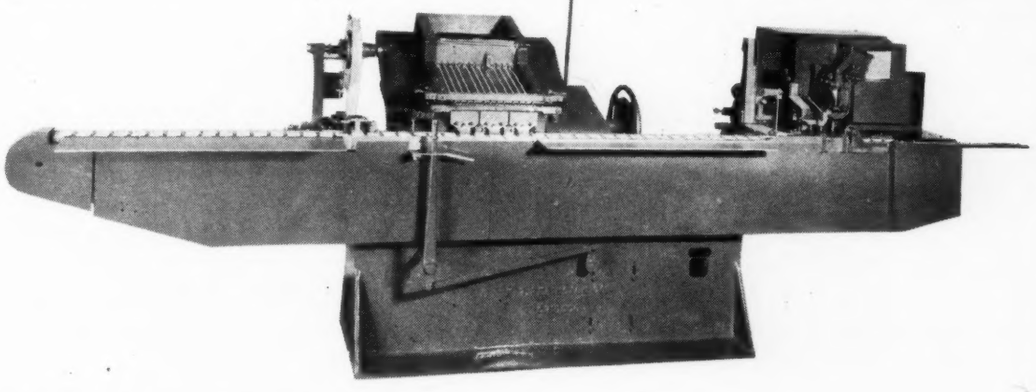
Today Bayer has a *large battery* of Redington packing machines in its laboratories producing the entire output of famous Bayer Aspirin. *All* operations listed here are completely *automatic* . . . the consumer is assured of receiving a cleanly packed, properly assembled package.

Other machines producing similar packages do *not* require tin opening mechanism but because of the *special construction* of the Bayer tin, this additional feature was added.

Bayer uses other Redingtons for other famous products, including cartoning machines for bottles of Bayer Aspirin.

Your own packaging problem may be more or less complex . . . but whatever it is, *49 years* of Redington experience are at your service.

F. B. REDINGTON CO. (Est. 1897)
110-112 Sangamon Street Chicago 7, Illinois



REDINGTON
PACKAGING MACHINES

FOR CARTONING • WRAPPING
• SPECIAL PACKAGING

The Richard M. Krause organization welcomes the challenge of the extraordinary! Designing and printing facilities for the discriminate. Set your standards high and you will not be disappointed when you assign to us the responsibility of effecting an intimate and exclusive charm for your new package.

Richard M. Krause INC
54 E. 19TH STREET, NEW YORK, 3 N.Y.
DESIGNERS AND DISTINCTIVE COLOR PRINTERS

We'll hang our story on a clothesline

Desirable properties suggest uses for **GEON** *raw materials in every industry*

★

THAT clothesline in the picture is something new. It consists of a flexible rope or metal core, covered with one of the GEON polyvinyl materials. It has certain definite advantages over conventional clotheslines—all of which can be translated into improved finished products in literally every industry and in the home.

For example, the clothesline is practically age-proof—resists the effects of sun, rain, light, heat, cold. It won't crack or get gummy even after prolonged exposure to weather. It's easily cleaned with a damp cloth—no dirt or grime can penetrate it. It's mildew-proof—fungi can't enter the surface. It will wear indefinitely—pull it around hooks thousands of times—no snagging, no breaking of the tough coating. It's smooth, flexible, easy to handle. It's brightly colored for high visibility and attractive appearance.

Consider those properties—plus others such as excellent electrical properties and resistance to acids, oils, and chemicals—in light of the fact that GEON can be extruded, pressure or injection molded, used as coatings for fabric or paper, calendered or cast into sheet or film. *The number of established and potential applications in every field is literally limitless.* For more information about GEON polyvinyl raw materials or for help with specific applications, please write Dept. L-3, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, O.

Here are a few applications for GEON suggested by the clothesline

Textile coatings for rainwear, awnings, industrial aprons.

Calendered, embossed sheet for upholstery and luggage.

Calendered or molded sheet for flooring, shoe soles, shower mats.

Paper coatings or film for packaging, wall covering.

Extruded wire and cable insulation.

Geon
Polyvinyl Materials

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

Hard to Resist

It takes a strong will to resist the impulse to do a little pre-dinner "snitching" when Steinfeld's tempting Sweet Pickles are being served. They've been famous for a quarter of a century for their wholesome, tasty goodness. ◆ These pickles, packed by Steinfeld's Products Co., Portland, Oregon, are another in the long list of products sealed securely and dependably with Crown Screw Caps. Only Crown Screw Caps have the patented Deep Hook Thread that makes them easy to apply and remove . . . yet gives double sealing pressure with the same amount of application force.

Crown Cork & Seal Company, Baltimore 3, Md. *World's largest makers of metal closures.*

CROWN CLOSURES

PLASTICS

WOOD

FABRICS

LEATHER

Arrow appreciates the many inquiries which come in daily regarding boxes and displays. As soon as material and labor become more plentiful, we will be ready to undertake new commitments—to create more boxes and displays that stem from Arrow's ability to work with a varied range of materials!

CARDBOARD

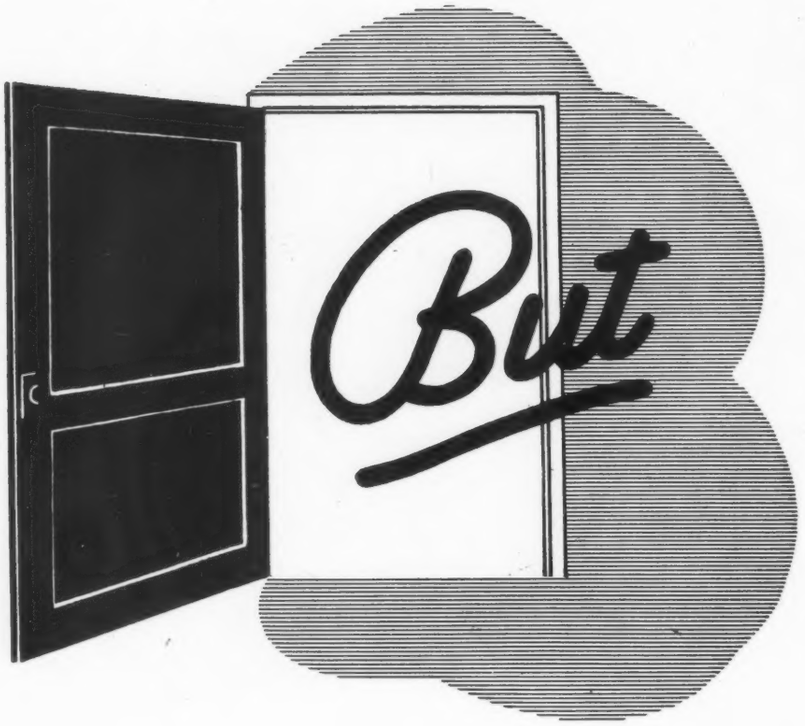
METAL

GLASS

Arrow BOXES AND DISPLAYS

ARROW MANUFACTURING COMPANY, INC. • FIFTEENTH AND HUDSON STREETS, HOBOKEN, NEW JERSEY

OUR DOOR IS OPEN . . .



Our door is open. We welcome inquiries and any opportunity to make our experience in packaging available to those with problems. . . .

BUT—and it's a big BUT—while we can give advice and counsel at this time, WE CAN NOT PROMISE TO ACCEPT ANY NEW ORDERS EXCEPT FROM ESTABLISHED CUSTOMERS, FOR AN INDEFINITE PERIOD.

Our facilities, large as they are, are being strained to the utmost to accommodate those we already serve. And our first duty is to make sure we fulfill our first obligations faithfully—first.

At present we are in position to handle more production on RIGID TRANSPARENT BOXES.

WALTER P. MILLER COMPANY, Inc.

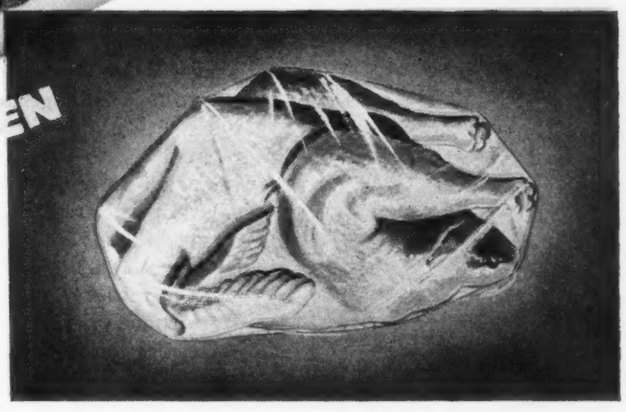
Creators and manufacturers of SET-UP *Paper Boxes*

452 YORK AVENUE · PHILADELPHIA 23 · PENNA.

Primer of Perfect Protection

P is for FRESH Potato Chips

kept crisp, snappy
and delicious from
vat to consumer



—and for Poultry

with that spring-broiler taste
the year round

SOON you'll be adding new taste magic to many foods — fresh and frozen — because you'll be marketing them flavor-sealed in **PLIOFILM.** ★ You see, this sheer and shimmering packaging material is both air- and moisture-proof. It keeps in juice-rich goodness, or keeps out moisture — with equal ease. ★ It protects coffee and tobacco against flavor loss, fruits and vegetables from desiccation, sensitive machinery from corrosion. ★ Or meats, berries and sea foods can be frozen for months without impairment of market-fresh taste and looks, because **PLIOFILM** prevents "freezer burn," dehydration and shrinkage. ★ Many laboratory tests have proved these facts — and manufacturers can soon confirm them. For **PLIOFILM** is on its way back, to provide packaging that combines eye-catching appeal with matchless quality-protection. Goodyear, Chemical Products Division, Pliofilm Dept., Akron 16, Ohio.

Pliofilm—T.M. The Goodyear Tire & Rubber Company

Pliofilm

A PRODUCT OF

GOODYEAR

RESEARCH

SEE TOMORROW'S PACKAGING MARVELS NOW!
Don't miss the Pliofilm show, Booth 204, at the Atlantic City Packaging Exposition, April 2—5.

. . . waste glass that isn't wasted

Cullet is the glassmakers' term for broken bottles or the scrap glass resulting from the manufacturing operation. Fortunately, glassmakers have found that this scrap glass, or cullet, when crushed and returned to the glass furnace, aids in the melting of the batch.

When cullet is used, melting of the fine dry powder-like batch proceeds smoothly and quickly to produce homogeneous molten glass. Glassmakers may use from 10% to 75% cullet, but the exact amounts for most efficient operation are determined by careful studies in the particular plant and depend on the glass formulation and the melting furnace operation.

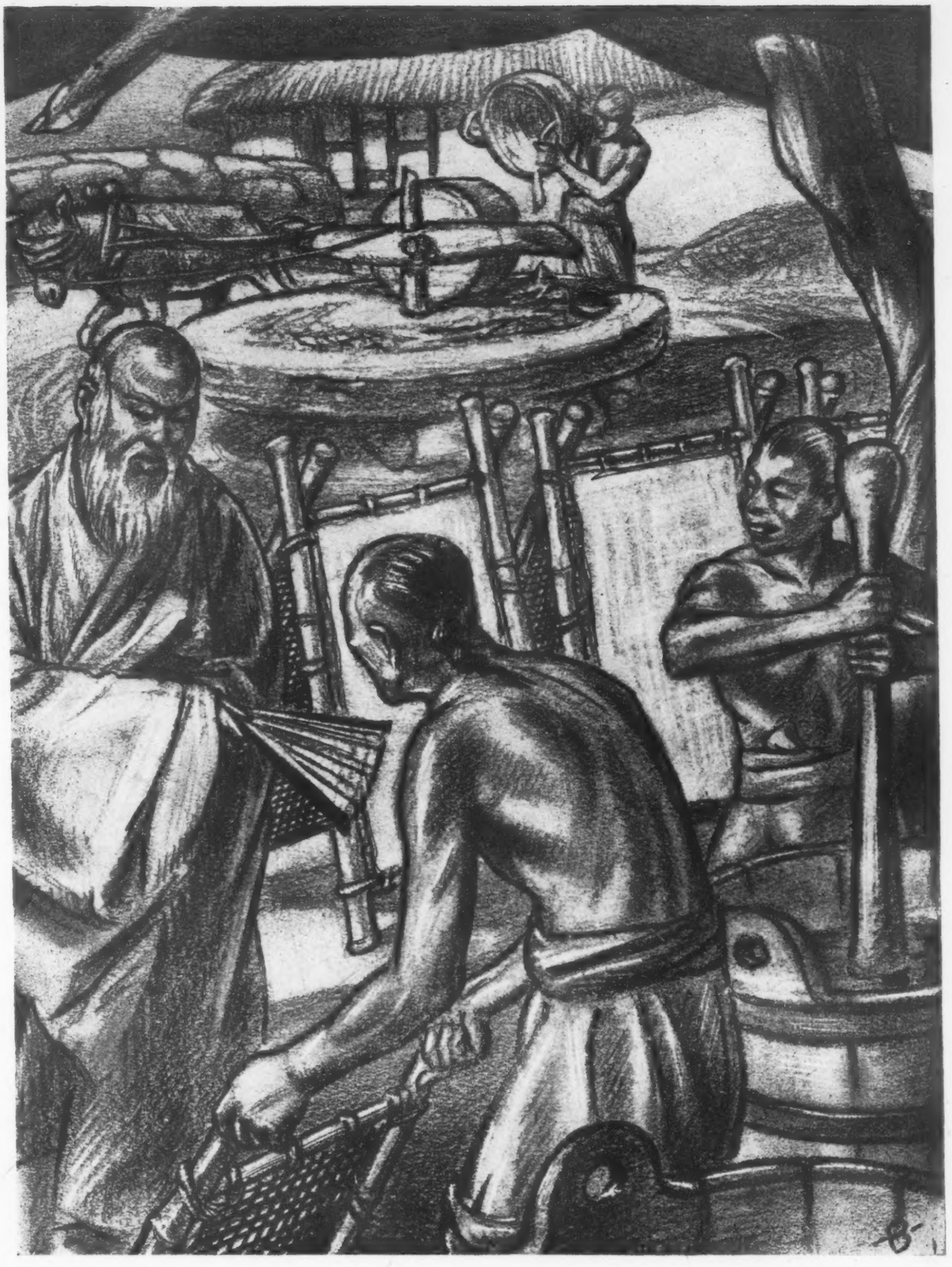
Despite its obvious glassmaking value, however, cullet presents problems in use. If too much is added, it may make the glass thick and viscous and difficult to mold into bottles. Purchased cullet must be carefully analyzed and adjustments made in the batch to produce a final glass of the desired composition.

Armstrong's glassmakers avoid these headaches by using only their own cullet. By using cullet from their own operations, they are sure of its uniformity, because they know its formula. Since long experience has taught them the most effective amounts to use, they are thus able to get the best possible results from the cullet. Similar care and experience, applied to every other phase of glassmaking, explain how Armstrong's Glass has earned and maintained its outstanding reputation for top quality.

For an interesting description of some of the other skills and techniques required in the making of fine glass, send for Armstrong's illustrated booklet, "Men and Glass." Address Armstrong Cork Company, Glass and Closure Division, 5903 Prince Street, Lancaster, Pennsylvania.

ARMSTRONG'S GLASS
and
ARMSTRONG'S CLOSURES

THIS IS NUMBER THREE IN A SERIES ILLUSTRATING THE HISTORY OF PAPERBOARD AND FOLDING CARTONS



PACKAGING OWES A DEBT TO THE CHINESE

It was the ingenious Chinese who first discovered the secret of making paper, more than eighteen centuries ago. Ts' ai Lun, an official in the Emperor's Court, is credited with this momentous invention. For several hundred years the Chinese kept the secret to themselves, and paper did not reach Europe until the Tenth Century. Paperboard and folding cartons, today's most widely used packaging materials, are the direct descendants of Ts' ai Lun's paper.

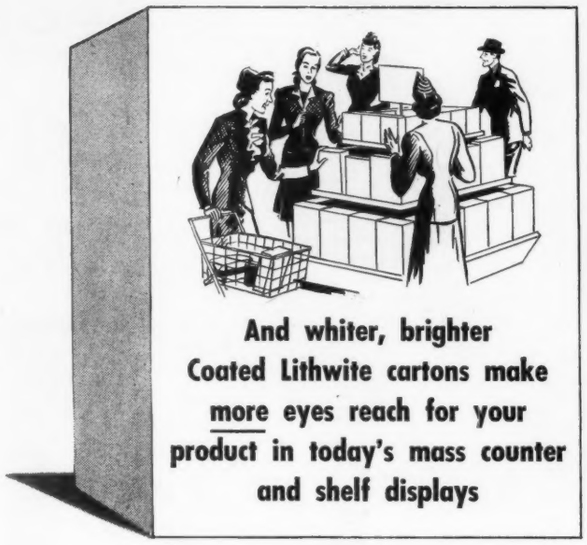
UNITED PAPERBOARD COMPANY, INC.

PAPERBOARD FOLDING CARTONS

285 MADISON AVENUE NEW YORK 17, N. Y.

You have

to get her "eye" TO GET A CHANCE AT THE SALE


And whiter, brighter
Coated Lithwite cartons make
more eyes reach for your
product in today's mass counter
and shelf displays

LOOK FOR RISING OPERATING COSTS to force more and *more* retailers into self service. And look to *Coated* Lithwite Cartons to give *your* product a real advantage in mass displays where *eye* value means *buy* value. For the smooth, velvety surface of Coated Lithwite brings colors up brilliantly . . . reproduces pictures with eye-catching realism. Chalk-free. Rub-resistant. It gives packages a quality look and feel that helps win many a point-of-sale decision.

Made by a revolutionary new process, *Coated* Lithwite is the amazing paperboard that is formed, made and coated in one high-speed operation. Proved and improved for seven years. Used today, for packaging many of America's most famous products.

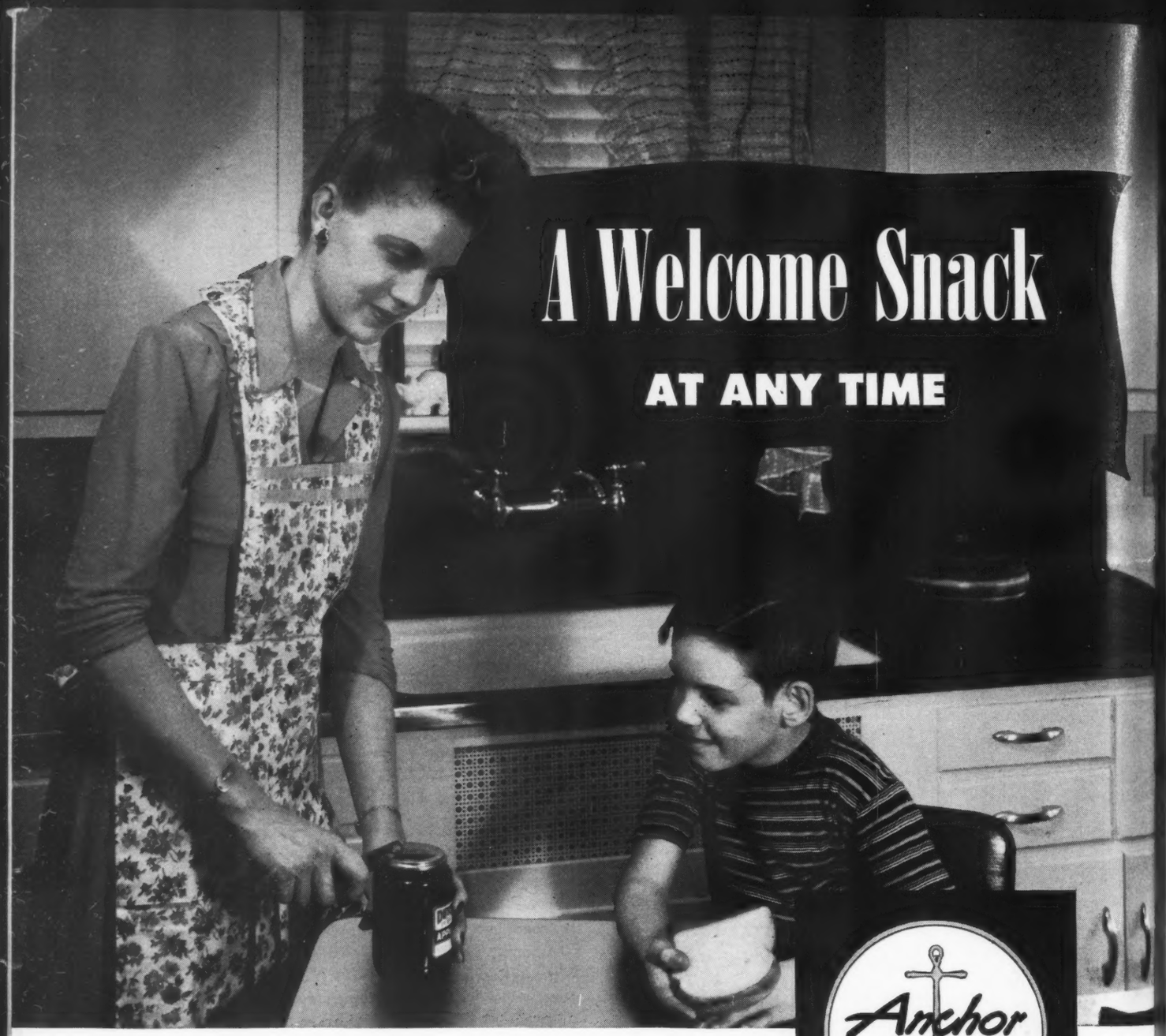
Fewer "Jammers" and "Leakers." *Coated* Lithwite folds without shattering or flaking. Takes a tight, positive seal. At present, *Coated* Lithwite production is completely sold up. But now's the time to investigate *Coated* Lithwite, talk over future carton needs with a Gardner-Richardson representative.

More eyes reach for your product in

Coated Lithwite Cartons

The GARDNER-RICHARDSON Co., Manufacturers of Folding Cartons and Boxboard, Middletown, O.

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT



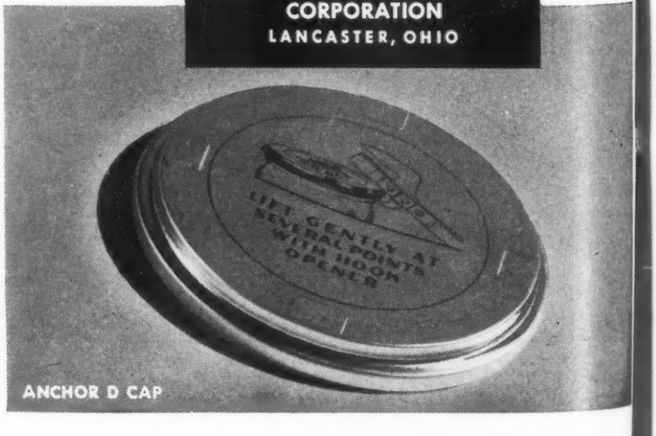
MOTHER opens a jar of jelly, jam, preserves, peanut butter, or any other spread sealed with the Anchor D Cap, knowing that it will provide a satisfying snack for Junior. She has never stopped to analyze the reason for her confidence in the glass package sealed with the Anchor D Cap. She does know that she has never had cause to complain to her retailer. It merits her confidence because it provides the most dependable, tamper-proof, leakproof, airtight or vacuum seal known.

Be sure that housewives, in their own homes everywhere, get the same fresh flavor, taste and wholesomeness of product that is packaged in your plant. Seal your products with the Anchor D Cap.

Anchor
CONTAINERS and CAPS

Heard in ANCHOR HOCKING'S HOBBY LOBBY
CBS NETWORK . . . THURS. EVE.

PRODUCTS OF
ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO



WRAP-O-MATIC

puts the "Buy Me" in Product Wrapping . . .

IT MAKES no difference whether your *Candy bars, biscuits* or *cookies* are round, square, or oblong . . . fragile, hard, or soft . . . Wrap-O-Matic can wrap them into neat, trim, sealed packages that stand out with "Buy me" sales appeal.

And it's economical wrapping too . . . for Wrap-O-Matics reduce wrapping labor costs as much as 75%, wrapping material costs as much as 35% and in most cases eliminate the use of inner liners, stiffeners, collars or other protective materials. Production is at high speed, up to 120 units per minute, using any type wrapper that can be printed in rolls.

Enjoy the benefits of Wrap-O-Matic wrapping —have our engineers survey your wrapping operations and show you how you can profit with Wrap-O-Matics. Write today for our illustrated brochure and more details.

For Wrapping Candy bars, biscuits and cookies . . . Wrap-O-Matic is the most popular wrapping machine in the confectionery and bakery field . . . a real tribute to the flawless wrapping by Wrap-O-Matic.

Lynch **Package Machinery Corporation, Toledo 1, Ohio U. S. A.**

DETROIT PUBLIC LIBRARY

flexibility...

GLU-WELD
water-resistant adhesives

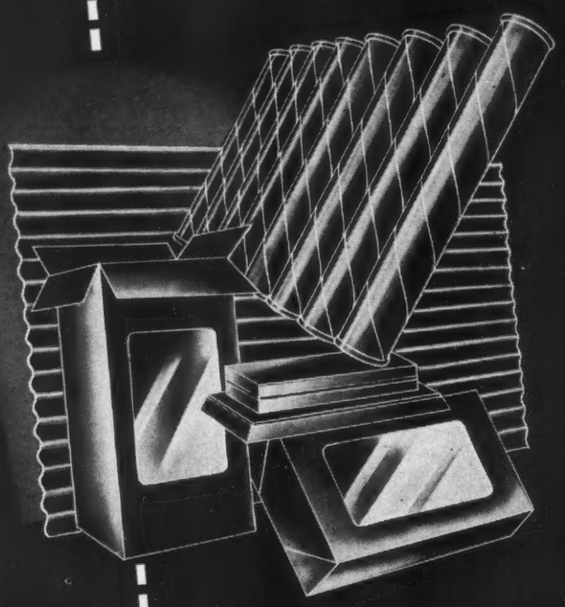
TUBE WINDING
adhesives, both paper and cellulose film

FLEXIBLE GLUES
for better non-warp qualities

LABELLING ADHESIVES
labels to tin, glass, foil, films, and paper

WINDOW ADHESIVES
for all cellulose films in window carton work

SPECIALTY ADHESIVES
You name the problem
We have the adhesive



CONTAINER ADHESIVES by

UPACO

...rigidity

UPACO . . . a name recognized as a symbol of quality in all phases of adhesive manufacture. **UPACO** products **rigidly** conform to specifications for their particular uses and the line is completely **flexible** to meet any adhesive problem. You cannot do better anywhere.

UNION PASTE COMPANY
Hyde Park, Massachusetts

KIDDER POINTERS

KIDDER THREE POINT PRESS

No. 12.

Observations of trends and indications in packaging . . . noted by the manufacturers of Kidder "3 Point" Presses, Kidder Press Company, Inc., Dover, N. H.

Cascophen, a resorcinol resin glue is available for civilian use. As well as on wood surfaces, the glue has been effective in bonding such materials as cloth, paper, cork, leather, glass fibre, asbestos boards and plastics. Casein Co. of America, 350 Madison Avenue, NYC, can give you the whole story.

Maybe as converters, you have plant problems of removing aniline-ink dyes from hands. Prack-Ink-Off claims to be an answer . . . from Prack Laboratories, Inc., 132 West 31st Street, NYC 11.

A urea-formaldehyde resin modification with superior retention and wet strength development on sulfite, rag and groundwood stocks has been announced . . . claimed to be particularly effective in producing high wet strength glassine, towelling, light-weight absorbent tissues, sulfite wrapping papers, blueprint, map and ledger paper. Uformite 470 is its name . . . by Resinous Products & Chemical Co., Philadelphia.

Better not miss the story of anhydrous foods, "magic food of tomorrow" in PACKAGING PARADE for December '45. Most fascinating and probably far-reaching foods development since frozen foods. Clarence Birdseye of frozen foods is inventor of anhydrous foods which mean saving of time and labor; year-round variety; less frequent marketing; convenient storage; less refuse. American Home Foods, Inc. will handle.

"Developing Marketable Products and Their Packagings" is a new 400-page book by industrial design and market researchman Ben Nash . . . available at $5. from McGraw-Hill Book Co., Inc., New York City.

Flexible-elastic plastics benefit the food field in packagings, says Dr. R. P. Dinsmore, vice president in charge research, Goodyear Tire & Rubber Co., in a fine story in PACKAGING PARADE for December, 1945.

New plasticizing styrene resins useful in plastic and calendaring compositions, paper lacquers, textile coating, pressure-sensitive adhesives, emulsion and rubber compounds as well as conventional lacquers, are announced as 276-V2 and 276-V9 by Dow Chemical Co., Midland, Michigan, through PLASTICS NEWS.

If you're a packager or planning to become one, rush to read that article on "Price Tickets" in MODERN PACKAGING for November, 1945. It goes way into the psychology of the ultimate buyer of price-fixed merchandise . . . may keep you on the right path of best packaging.

Have you read the "50 Product 'Maybes' for Increased Business" . . . which talks about packages, color, and other things in ADVERTISING AND SELLING for November, 1945? It starts thinking, and action — maybe!

Packaging men today are unanimous in their approval of smart, distinctive printing on shipping boxes seen by the ultimate consumer. It is conceded that effective printing on such shipping boxes should be part of any planned advertising and sales promotion program. It is important, moreover, that there are advantages in better printing on shipments for purely industrial channels. The reasons why, with an illustration on Johnson Bronze Co. packagings, appears in PACKAGE LABORATORY NEWS (Hinde & Dauch, Sandusky, O.) Vol. 4, No. 4, if you're interested.

Better look over that answer on the functions of a bread wrapper in PACKAGING PARADE for December '45, page 74. It may answer some of your queries.

Analysis shows that in most industries, packing and packaging operations have become scattered among departments primarily concerned with entirely different functions. Unified responsibility might well solve difficulties in distribution resulting from lack of coordination with respect to packing and packaging problems . . . summarizes Major C. L. Saperstein in DISTRIBUTION AGE for November, 1945.

KIDDER PRESS COMPANY, INC., ***Printing Machinery,*** **Dover, N. H.**

WRAPPER ACHIEVEMENT OF THE MONTH

Mullinix packing, a new scientific development by Western Waxed Paper Co., for products like bacon, butter, etc., presents an ideal lightproof rigid package. This Luer sliced bacon package is printed on dry uncoated solid bleached sulphite paper which is later laminated to another sheet and coated. Rubber plates print the sheet in wide rolls on a Kidder oil ink letterpress, with special inks that are moisture-proof, resistant to grease and salt water. Colors on this exceedingly high-speed work are very brilliant red, yellow, dark blue, and light blue, with designs complying with the Mullinix "must" — "Every Package a Billboard." This same full protection, impulse-buying, consumer-convenience are presented in the new moisture-proof, self-sealing Challenge butter package. For these outstanding packages, Kidder salutes

WESTERN WAXED PAPER CO.
Division of Crown Zellerbach Corporation
LOS ANGELES, CALIF. OAKLAND, CALIF. PORTLAND, OREGON

THREE METHODS...THREE CHARACTERISTICS FOR QUALITY PRINTING

Keep Converters Returning to the Kidder "3 Point" Line

Letterpress, aniline and gravure . . . all roll-printing . . . are three general printing *methods* — all three available through Kidder Presses. The "3 Point" trademark which has long been associated with Kidder's three *characteristics* of quality printing has come to represent also the three *types* of Kidder printing presses for the converter field.

KIDDER MULTI-COLOR PRESSES, long accepted as standard for about 90% of American bread wrappers, have been expanded in line to include:

ANILINE-TYPE PRESSES, the pre-war "Aniliner"... now developed into heavier presses for high-speed, high-quality runs . . . and the "Celloprinter" . . . for the cellophane trade.

GRAVURE PRESSES, called "Unitype" because their design permits unit-additions.

KIDDER SLITTERS and REWINDERS . . . for which new Kidder models will serve converters.

While Kidder is designing and building printing presses for converter needs, Kidder engineers are available for consultation on your problems of printing, packaging, inks . . . or to review your requirements in new high-speed slitters and rewinders (up to 115″).

CONTROL OVER THE PAPER

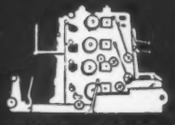
PROPER DISTRIBUTION OF INK

ACCURACY OF THE IMPRESSION

KIDDER
THREE POINT
PRESS

KIDDER

Manufacturer of "3 Point" Presses—so-called because they fulfill the three major requirements for perfect printing.

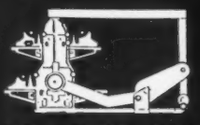


MULTI-COLOR LETTER PRESSES

for waxed paper, box wrappers, etc., rewound or sheet-delivered — up to 72 inches.

MULTI-COLOR "UNITYPE" GRAVURE PRESSES

for cellophane, foil, pliofilm, etc., — up to 36 inches.



"ANILINER" and "CELLOPRINTER" MULTI-COLOR PRESSES

for decorative papers, cellophane, glassine, etc., — up to 65 inches.

SLITTERS AND REWINDERS

for paper mills, finishing rooms and small-roll, high-speed slitting — up to 115 inches.

hydry

THE COMPLETELY *New* PRINTING INK

offers these

10 ADVANTAGES

1. **NON-OFFSET.** Hydry reduces possibilities of offset to a new minimum.
2. **FAST DRYING.** Hydry dries on most stocks in ten to twenty minutes. On presses equipped with steam applicator it dries instantly.
3. **ODORLESS.** Hydry makes possible finished prints entirely devoid of odor.
4. **BRILLIANT COLORS.** Hydry affords cleanliness and brilliance of color.
5. **NON-SMEAR.** Hydry increases resistance to rubbing and smearing on cartons, wrappers and most kinds of printing.
6. **INCREASED MILEAGE.** Hydry gives complete coverage with thinner film.
7. **NON-SKINNING.** Hydry does not skin in containers or press fountains.
8. **NON-CRYSTALLIZING.** Hydry is always capable of being overprinted.
9. **IMPROVES FOLDING QUALITIES OF STOCK.** Hydry affords better moisture content in paper stock.
10. **IMPROVES HEAT-SEALING OF WAXED WRAPPERS.** Hydry ink does not mix with wax film during heat-sealing operations.

We shall be glad to send our book describing HYDRY to those interested in this NEW printing ink.

GENERAL PRINTING INK COMPANY DIVISION
SUN CHEMICAL CORPORATION
100 SIXTH AVENUE · NEW YORK 13, N. Y.

American Printing Ink · Chemical Color & Supply · Eagle Printing Ink · Fuchs & Lang
Geo. H. Morrill · Pacific Coast · Sigmund Ullman · E. J. Kelly Company

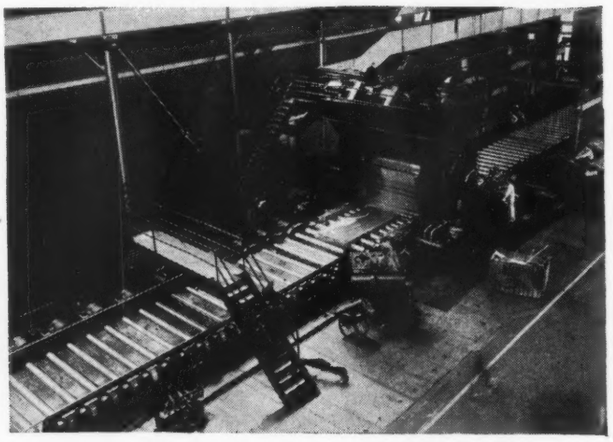
Consult REYNOLDS for

Complete Reynolds facilities are ready to serve you.

Reynolds has an industry specialist for each of the great packaging fields—foods, beverage, drug, cosmetic, confectionery, dairy, baking, cereal, automotive. To help solve your problems, he has at his call the complete services of the world's oldest and largest producers of foil packaging.

SKILLED RESEARCH LABORATORY. Fourteen separate departments are constantly studying and testing new possibilities in foils, papers, films, adhesives, printing inks and methods. All the facilities of this Research Unit are at your disposal.

ENGINEERING SERVICE. Reynolds technicians are ready to give specific expert advice on application and removal of Reynolds metal labels—ways to improve packaging machinery.



ENLARGED CAPACITY FOR FLEXIBLE METAL PACKAGING. 90% of flexible metal packaging used during the war came from Reynolds plants. To industry this means increased capacity... improved facilities ... greater skill.

SENSATIONAL NEWS AT THE PAGKAGING SHOW!

SEE Reynolds PAK . . . the modern all-aluminum container . . . Reyseal, the revolutionary heat-seal material . . . Reynolds Aluminum Foil butter wrap . . . these and other newly developed items will be shown and demonstrated at Atlantic City, April 2nd to 5th. You are cordially invited to visit booth 310 at the exhibit and see for yourself the latest Reynolds developments that give greater protection to products of all kinds and at the same time bring the added sales appeal that only foil can give.

new packaging developments

LARGEST FOIL PRINTING FACILITIES. For nearly 25 years Reynolds has led the way in high speed color printing on aluminum foil. Today plans are nearing completion for even larger facilities and additional colors to meet postwar trends.

COMPLETE ART AND DESIGN SERVICE. Many of America's most outstanding packages were designed by Reynolds. This skilled staff is ready to help your product take full advantage of the selling allure that only foil can offer.

NEW WAR-TESTED techniques—expanding facilities—scientific packaging research—expert engineering—are ready to help you gain greater postwar markets.

Reynolds new policy of developing packages to meet individual industry needs is revolutionizing the approach of many important companies to their problems of packaging. This new Industry-Specialist Plan has already resulted in spectacular success. A few examples are:

Reynolds PAK, the modern, all-aluminum container; Reynolds new Aluminum Foil Butter Wrap; Reyseal, the revolutionary heat-seal foil material that protects against moisture, heat and light.

You will want to know about these amazing new advances in packaging. All of these and more will be shown and demonstrated at the Packaging Show at Atlantic City, April 2 to 5, 1946. If you are there, be sure to visit the Reynolds Exhibit. If not, write for further information to Reynolds Metals Company, Richmond 19, Virginia.

REYNOLDS ALUMINUM

REYNOLDS METALS COMPANY

Leads the way in Foil Packaging

A cork "tip" from an actress

This aspiring actress is making doubly sure her all-important "first impression" will be a favorable one. You can do the same for your products—help them get off on the right foot with your customers—by selecting only top-quality corks.

For the cork is the part of your package that your customer meets first. If it is hard to withdraw, breaks, or crumbles in the bottle, the customer's first impression of your product is unfavorable. Even if the inferior cork has sealed the contents safely, the unfavorable first impression of poor quality affects the customer's judgment of your product.

That's why it will pay you to order your corks from Armstrong. Here you're sure of getting only top-quality corks—corks that draw easily and in one piece—corks that create a favorable "first impression" as well as seal your package securely.

For information about any of Armstrong's Corks—straight, tapered, shell, flange, or Embossed-top—or other types of Armstrong closures and for helpful, impartial advice, get in touch with your nearest Armstrong representative. Or write to the Armstrong Cork Company, Glass and Closure Div., 5903 Prince Street, Lancaster, Pa.

For favorable "first impressions"

ARMSTRONG'S CORKS and CAPS

A *Lustrous* COAT OF ARMOR THAT *Beautifies and Protects!*

THE MODERN PACKAGE

. . . will be sealed against moisture, dust, handling and deterioration by a gleaming cloak of LAMCOTE. "WINDOWS" covered the transparent LAMCOTE way will display merchandise glamorously through sealed-in package walls. Luxurious beauty and the magnificence of radiant coloring will be imparted to the masterful work of printer and lithographer by the rich elegance of gleaming LAMCOTE.

Investigate the application of this modern, low-cost process to your package planning.

LAMCOTE

Reflects THE QUALITY OF QUALITY PRODUCTS

LAMCOTE....

The process of affixing a lustrous, transparent, tough film of plastic permanently to the surface of paper, board, fabric or other material.

VISIT OUR BOOTH No. 61

Convention Hall
Atlantic City
APRIL 2-5

QUALITY PRODUCTS — METAL PAPERBOARD PLASTIC — SINCE 1903

ARVEY CORPORATION

WORLD'S LARGEST MOUNTERS AND FINISHERS OF ADVERTISING DISPLAYS

CHICAGO • DETROIT • JERSEY CITY

INSIST ON ARVEY QUALITY

"The Proof IS IN THE EATING"

. . . AND R. T. G. CASE HISTORIES ILLUSTRATE THE POINT

It is difficult to talk of package design without dwelling at length on beauty. But a package possessing beauty alone is not necessarily an effective package. An effective package is one that makes economies on your production line, that adds convenience as it wends its way through the channels of distribution, meanwhile combining that extra appeal of those aesthetic values that cause more of your product to be bought. The following are but a few of the R. T. G. case histories that have accomplished such a result.

Tru-Temp thermometers were packaged individually in unprinted cartons that served merely as a protective carrier. Hence, they were hidden from sight when on the retail shelf. Major sales being through small outlets, the demand was for only one dozen assortments of three different styles. R. T. G. suggested the use of a combination shipper and display unit. The ultimate design was built around the tradename "Tru-Temp' and dramatized the feeling of heat and cold. Effective copy, written by R. T. G.'s design staff, added further interest. Construction was such as to display all three styles with sufficient rigidity and extra protection for safe shipment of all the fragile glass involved. As "proof of the pudding", the display is now in its sixth year of use.

By creating a simplified unit, the R. T. G. design staff enabled Perfect Circle Company to greatly reduce its overall package costs. Former packaging materials were not only expensive, but the labor of filling, sorting, marking and re-ordering of some two hundred items was most complicated. R. T. G.'s ultimate package was a series of individual folders, grouped by sizes, made from greaseproof board. These fitted into an outer package, beautifully designed for each private brand. A special printed card for re-ordering was inserted between the open window of each carton unit. Display value was increased, handling was simplified all the way from manufacturer to retailer, and costs were radically reduced.

THE

The illustration of "Before" package in the adjoining illustration shows how the "Union" trademark submerged sales copy on the display for garden tools. It shows how the sales value of the tools in the unit was lost because of wrapping in tissue paper and stacking the odd shaped tools one on top of the other.

The combination display and shipper individually displayed each tool, yet carried them safely without shifting or marring the container. By relegating the trademark to a minor position, space was made available to illustrate the products in use and to add sparkling sales copy. Sales within three months surpassed the total garden sets sold from the former display during the entire previous year.

At the time of R. T. G.'s contact with Spencer Wood Products, a terrific price war was being waged in the clothespin field. To offset this trend and to raise the entire standard of clothespin merchandising, R. T. G. created a new sales idea through the carton design. "Rainy Day" nursery ideas were developed, built around the character "Spence", the clothespin "Mortimer Snerd". Package inserts, that illustrated toys and games that could be made from clothespins, were developed and written as an extra service to the customer. Money prizes were offered for new ideas that could be added to future pamphlets. The complete program created by R. T. G. illustrates the extent of the overall design service available to its customers.

For more details and further R. T. G. "Case Histories", be sure to write for your copy of "Design For Sales".

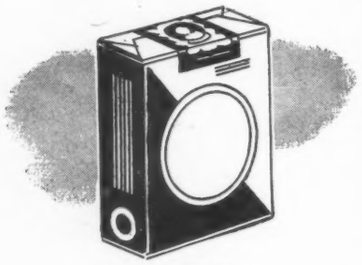
A "REFRESHER" TEXTBOOK
FOR PACKAGING EXECUTIVES
FREE

WRITE FOR YOUR FREE COPY TODAY
EDITION LIMITED

RICHARDSON · TAYLOR · GLOBE CORPORATION

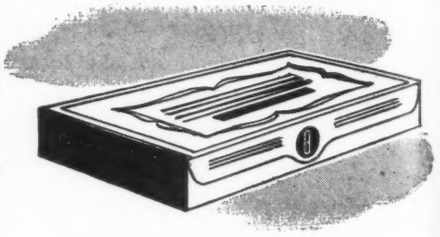
4503 WEST MITCHELL AVENUE · CINCINNATI · OHIO

if you package



CIGARETTES

MILK · BUTTER · CHEESE



ICE CREAM

you'll want to know these facts about

OTHER I.P.I. AIDS TO BETTER PACKAGING

In addition to the Vaposet Inks described, I.P.I. also offers you—

ANILOX* INKS—These 100% pigment inks for aniline and Anilox type presses are easy to use, low in cost, eliminate slip-sheeting and produce better fastness to light and sharper printing on plain and coated papers, board, glassine, acetate, foil and other materials—even the more highly plasticized grades of cellophane.

PLASTIC AND GLASS INKS—For printing by letterpress, lithography, aniline, gravure or silk-screen on all shapes and types of plastics and glass. Wide experience in developing special inks for many kinds of specific applications where they must resist solvents, acids, alkalies chemicals, gases and other deteriorants, has given I.P.I. the "know-how" that will prove invaluable in helping you solve your problems of printing on plastic and glass containers.

HOT MELT COATINGS AND LAMINANTS—For decorative papers and protective papers that are moisture-resistant, grease-proof, non-aqueous.

VAPORIN* INKS—Instant-drying, retain their body throughout press run. Eliminate slip-sheeting. For bag printing where high press speeds are essential.

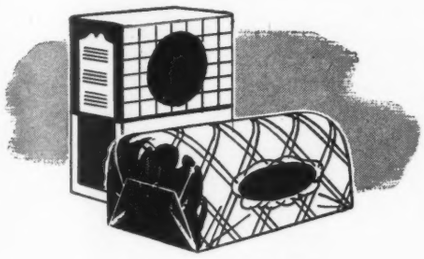
FOR OFFSET LITHOGRAPHY—Improved offset inks, a new litho drying stimulator, offset blankets, and a complete line of lithographic supplies.

I. P. I. COLOR CONTROL SERVICE—A special service that helps eliminate guesswork in matching colors. It is the only complete service of its kind. Costs you nothing; can save you money, time, worry.

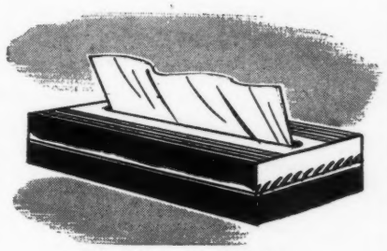
Color control begins with a color standards survey. From your printer, I.P.I. obtains samples of paper stock and colors involved. A correct matching ink is formulated for each job. After formulas are established, I.P.I. supplies your printer with a color guide identified by a number. Corresponding numbers with formulas are also sent to all I.P.I. branches. Your printer may then order inks by formula number to help you obtain uniform color results. Let I.P.I., without obligation, go to work on *your* problem.

FOR THE NEWEST IN INKS AND COLOR SERVICE

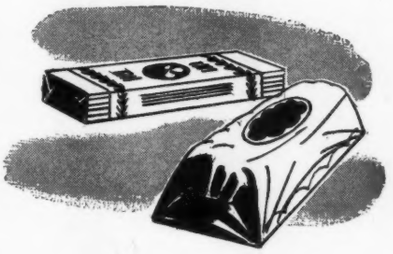
products like these



CEREAL • BREAD



FACIAL TISSUES



GUM • CANDY

quick-drying odor-free VAPOSET inks

1 Vaposet* Inks are the closest to an odorless printing ink yet achieved. This is because neither the resin nor solvent, of which the inks are made, is subject to oxidation.

2 Vaposet Inks set instantly on application of steam or completely vaporized water. They are exceptionally fast-drying even without application of moisture . . . can be put through waxing machines within 2 hours after printing. Ordinary inks take 2 days to 2 weeks. Vaposet is the answer to your print, wax and rewind jobs.

3 Vaposet Inks are available in a full range of colors . . . give extremely clean printing results.

4 Vaposet Inks are remarkably superior in sealing qualities to ordinary oil inks . . . have much greater sealing test, permitting easier handling on the sealing machine.

5 Vaposet Inks have unusual advantages when used on corrugated carton liners. With these moisture-set inks, printing may be done on green liners, the presence of moisture setting the inks more rapidly than if the liners were dry. This makes it possible to carry out a continuous operation from printing through instant drying and immediate scoring to the final fabricating and filling operations. When ordinary oil inks are used many hours are lost and valuable storage space is taken up waiting for the liners to dry before they are printed.

IT IS because of developments like Vaposet that leading package, bag, container and label printers have found it pays to consult with I.P.I. Package goods manufacturers, too, have long recognized International Printing Ink's technical skill and experience in the development of new materials and methods for the packaging field.

This recognition is a direct result of a continuous program of research and the use of modern precision control equipment—some of special design—for the exact measurement and analysis of color and materials.

I.P.I. laboratory technicians and representatives are equipped to help you at all times with your package printing problems. Customers say, "It pays to keep in touch with I.P.I."

INTERNATIONAL PRINTING INK

DIVISION OF INTERCHEMICAL CORPORATION

EMPIRE STATE BUILDING, 350 FIFTH AVENUE NEW YORK 1, N. Y.

*REG. U. S. PAT. OFF.

ipi

. . . KEEP IN TOUCH WITH I. P. I. . . .

"Every advantage that old-fashioned containers **LACKED!"**

Where old-fashioned containers broke because they were brittle, CLEARSITE is shatterproof! Old-fashioned containers required wads of protective packing, whereas CLEARSITE requires none; old-fashioned containers had to be labeled — a costly operation — but CLEARSITE plastic containers have labeling matter imprinted during manufacturing process.
Then, too: CLEARSITE weighs 80% LESS than glass; saves shipping costs... and CLEARSITE can be supplied crystal clear or in ANY colors.
Dessau
NEW YORK CITY
HYGIENIC PLASTIC RUBBER
85 Vitamin Capsules Only
VI-SYNERAL
VITAMINS and MINERALS
CONTAINS VITAMINS

They *are found* in

Clearsite*

*Reg. U. S. Pat. Off.

***plastic* CONTAINERS**

SHATTERPROOF
SEAMLESS
FEATHERLITE
COLORFUL
imprinted during manufacturing process.

Clearsite, in sizes up to 6 inches high; diameters from 3/8 to 1½ inches, are the most modern containers available; lustrous, more durable and economical. Use them for drugs, cosmetics, pharmaceuticals, sporting goods, sanitary products, machine parts, tools and hardware!

Ask to SEE samples; *they* tell the whole story!

CELLUPLASTIC CORP.

CELLUPLASTIC CORPORATION

PLASTIC CONTAINERS
AND
PLASTIC PRODUCTS

40 AVENUE L NEWARK 5, N. J.

NEW YORK OFFICE—630 FIFTH AVENUE WEST COAST: CONTAINER SERVICE COMPANY, LOS ANGELES 27, CAL.

See our booth at the Packaging Show, April 2–5

NOW: *Custom Made*

COATINGS TO MEET YOUR INDIVIDUAL NEEDS!

No matter how complex or unusual your coating problems may be . . . no matter how ineffective ready-made coatings may have been — your problems *can* be solved with SYNTRON *custom-made* coatings.

Right now, Gordon-Lacey research laboratories are engaged exclusively in developing new SYNTRON coatings *custom-made* to fit your individual needs. And in the creation of new SYNTRON coatings for you, will go all the experience and "know-how" that produced so many of the standard coatings now being used by the nation's largest industries.

These new SYNTRON coatings can be formulated for application to both porous and non-porous surfaces, such as fabric, paper, wood, plastic, nylon, metal, etc., to impart such important qualities as moisture vapor proof protection; resistance to grease and oil; heat sealing, toughness; resistance to acids, alkalis and chemicals; durability; flexibility; abrasion-resistance; etc.

Of course, if your coating problems can be solved by standard coatings, specific SYNTRON coatings are now available for immediate use.*

***MOISTURE VAPOR PROOF HEAT-SEAL COATINGS**

Ideal for all types of paper bags and packages especially glassine. Non-toxic, odorless, oil and grease resistant. 1 to 5 grams moisture vapor per 24 hours per square meter. Block—above 135° fahrenheit under 1 lb. pressure per square inch.

***HIGH GLOSS COATINGS**

Protective coatings that give a very high gloss to all kinds of papers, eliminating the need for laminated cellophane or for wrapping packages in cellophane to give them protection and sparkling attractiveness. Alcohol-proof; grease, oil, acid and alkali resistant; and heat-sealable.

***ALUMINUM HEAT-SEAL COATINGS**

Specially developed to give maximum sealing strength for all types of aluminum foil bags and packages. Actually sets up a solid barrier between the contents and attacking atmosphere. Waterproof; non-toxic; colorless; odorless; oil, acid and alcohol resistant. Block — above 135° fahrenheit under 1 lb. pressure per square inch.

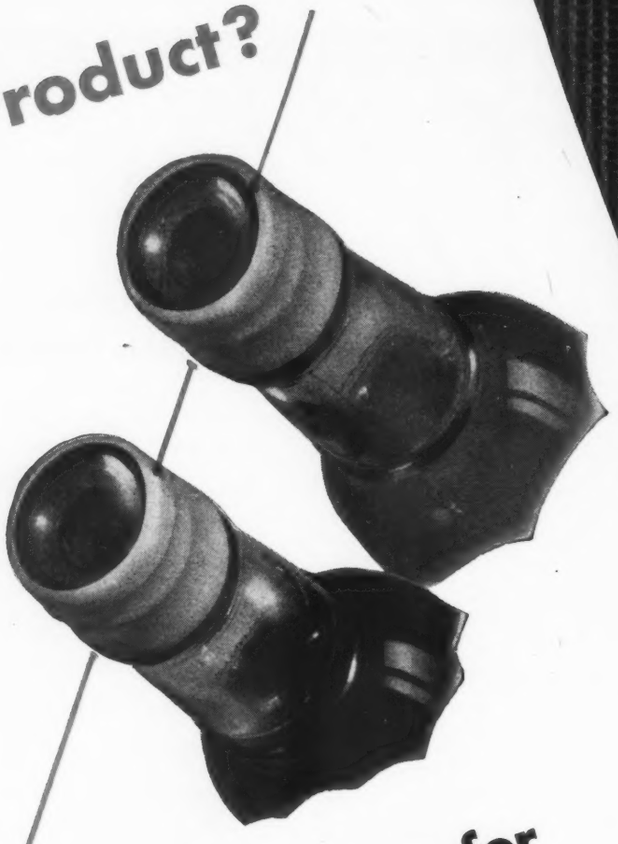
Write for full information concerning your coating problem to Dept. MPM.

GORDON-LACEY CHEMICAL PRODUCTS CO.

57-02 48th STREET • MASPETH, NEW YORK

*TRADE MARK

Flavorful Product?



...Another Reason for CEL-O-SEAL

REG. U. S. PAT. OFF.

When it's flavor that sells your product, you can't be too careful about air-tight protection. Du Pont "Cel-O-Seal" bands *seal* the primary closure in place, so that it can't come loose in transit or be removed by inquisitive shoppers.

A colorful "Cel-O-Seal" band is an eye-catching badge of protection that assures the purchaser of sealed-in flavor. For added merchandising effectiveness, the bands can be *indelibly* printed with your name and sales message.

"Cel-O-Seal" cellulose bands are manufactured by E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Del. They are also sold by Armstrong Cork Co., Lancaster, Pa., and I. F. Schnier Co., San Francisco, Calif.

DU PONT "CEL-O-SEAL" BANDS

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING ... *THROUGH CHEMISTRY*

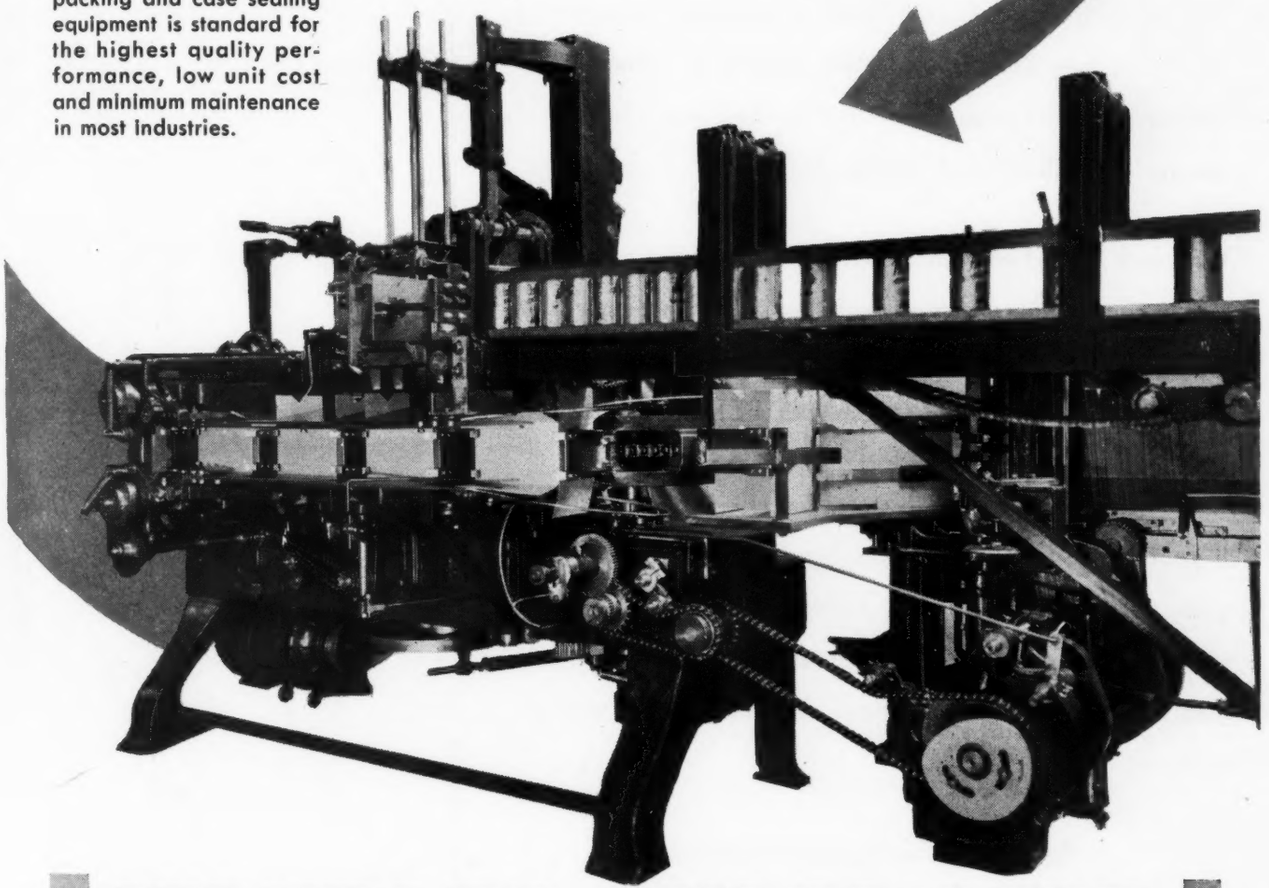
OPENS, PACKS, SEALS, DELIVERS!

This machine is one of Standard-Knapp's contributions to the art of automatic packaging.

There are two feeding stations. One accepts cans or glass jars or bottles; and the other takes flat cartons. As the packages move into the loading station, simultaneously the machine opens the cartons and sets them up. Once the cartons are filled, the machine automatically seals them and takes them on to any given point in the plant.

This is just one more example of Standard-Knapp machinery, of the art of designing and building packaging machines that do special jobs. Besides being completely functional, every Standard-Knapp machine is sturdily built of the finest materials and the most modern details of construction.

Standard-Knapp case packing and case sealing equipment is standard for the highest quality performance, low unit cost and minimum maintenance in most industries.



STANDARD-KNAPP CORP.

MANUFACTURERS OF CASE SEALING, CASE PACKAGING, AND CAN LABELING MACHINES

FACTORY and GENERAL OFFICES—PORTLAND, CONNECTICUT

570 Lexington Avenue, NEW YORK 12, N. Y.
221 North LaSalle St., CHICAGO 1, ILL.
145 Public Square, CLEVELAND 14, OHIO
300 Seventh Street, SAN FRANCISCO 2, CALIF.
430 S. San Pedro Street, LOS ANGELES 13, CALIF.
3224 Western Avenue, SEATTLE, WASH.
1208 S. W. Yamhill Street, PORTLAND 5, OREGON
Paul Brown Building, ST. LOUIS 1, MO.

Windsor House, Victoria Street, LONDON, ENGLAND

Do Some Fact Finding in your Carton Packaging Department

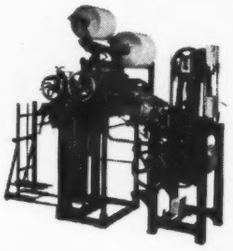
The Purpose behind all fact finding is to develop new ideas from everyday operations and well-known conditions.

This development of new ideas is particularly important where the long established factory routine has assumed that the way a job is running now is "the best way" or "good enough" and should not be disturbed.

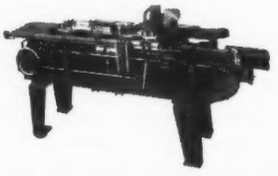
One such "good enough" situation in the carton packaging department is where cartons are being set up and closed by slow and expensive hand methods. This job can be done faster, quicker and at less cost with PETERS economical Packaging Machines.

If your fact finding investigation shows that this is the case in your packaging department, follow through! Send us a sample of the various cartons you are now using. We will gladly make recommendations to suit your specific problem.

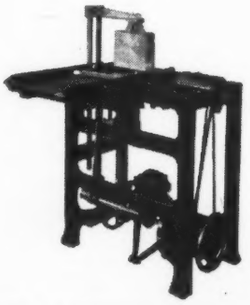
Booth 405, Packaging Exposition
Atlantic City—April 2–5, 1946



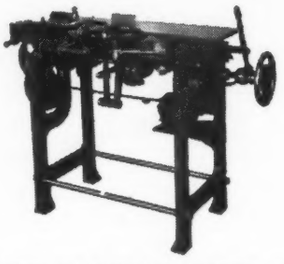
SENIOR CARTON FORMING AND LINING MACHINE. Sets up 55–60 cartons per minute. Fully automatic.



SENIOR CARTON FOLDING AND CLOSING MACHINE. Closes 55–60 cartons per minute. Fully automatic.



JUNIOR CARTON FORMING AND LINING MACHINE. Sets up 35–40 cartons per minute. Requires one operator.



JUNIOR CARTON FOLDING AND CLOSING MACHINE. Closes 35–40 cartons per minute. Fully automatic.

PETERS MACHINERY CO.
4700 Ravenswood Avenue, Chicago, Illinois

KIMBLE NEUTRAGLAS CONTAINERS

Standardize **NOW** *on Kimble Ampuls, Serum Vials, Serum Bottles and Clinical Glass Containers made of* **NEUTRAGLAS** *(N-51A Glass)—CLINICALLY SAFE.*

The physician prepares with confidence for a vitally important injection. He knows the reliability of the manufacturer. He knows the protection afforded by the Kimble NEUTRAGLAS container, which resists deterioration and solvent action regardless of length of storage. This safeguarding of quality the medical profession recognizes as vital.

• • • *The Visible Guarantee of Invisible Quality* • • •

KIMBLE GLASS COMPANY . . . . VINELAND, N. J.

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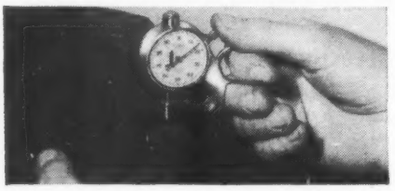
Laboratory coating machine used by technicians for testing covering qualities of Paisley Adhesives

BUY COVERAGE NOT POUNDAGE

WHEN YOU BUY ADHESIVES

Coverage means economy! That's why PAISLEY Labeling, Laminating, Sealing Adhesives and Coatings are carefully designed with this important factor in mind. Scientific blending and compounding produces glues, pastes and resin emulsion cements that are COHESIVE . . continuous films that cover more surface when spread in accurate amounts of micrometric thinness. Thin continuous films set faster . . speed up production . . give greater coverage . . save you money because they lower unit costs. Don't be content with bonding or sticking qualities alone . . benefit from COVERAGE also.



Measurement of exact wet or dry film thickness is regular development and control procedure in Paisley Laboratories.

Specify PAISLEY on your next requisition and check these qualities in your regular production. There is a PAISLEY Adhesive for every gluing, laminating, sealing and coating operation. Our laboratory and trained service men will help you obtain the full benefits of modern adhesive research.

SEND FOR a *PAISLEY Adhesive Operation Data Sheet.* It will point the way towards getting the one best adhesive for a specific operation. This skilled laboratory service is yours without cost or obligation. Write today!

AMERICAN MANAGEMENT ASSOCIATION

PACKAGING EXPOSITION

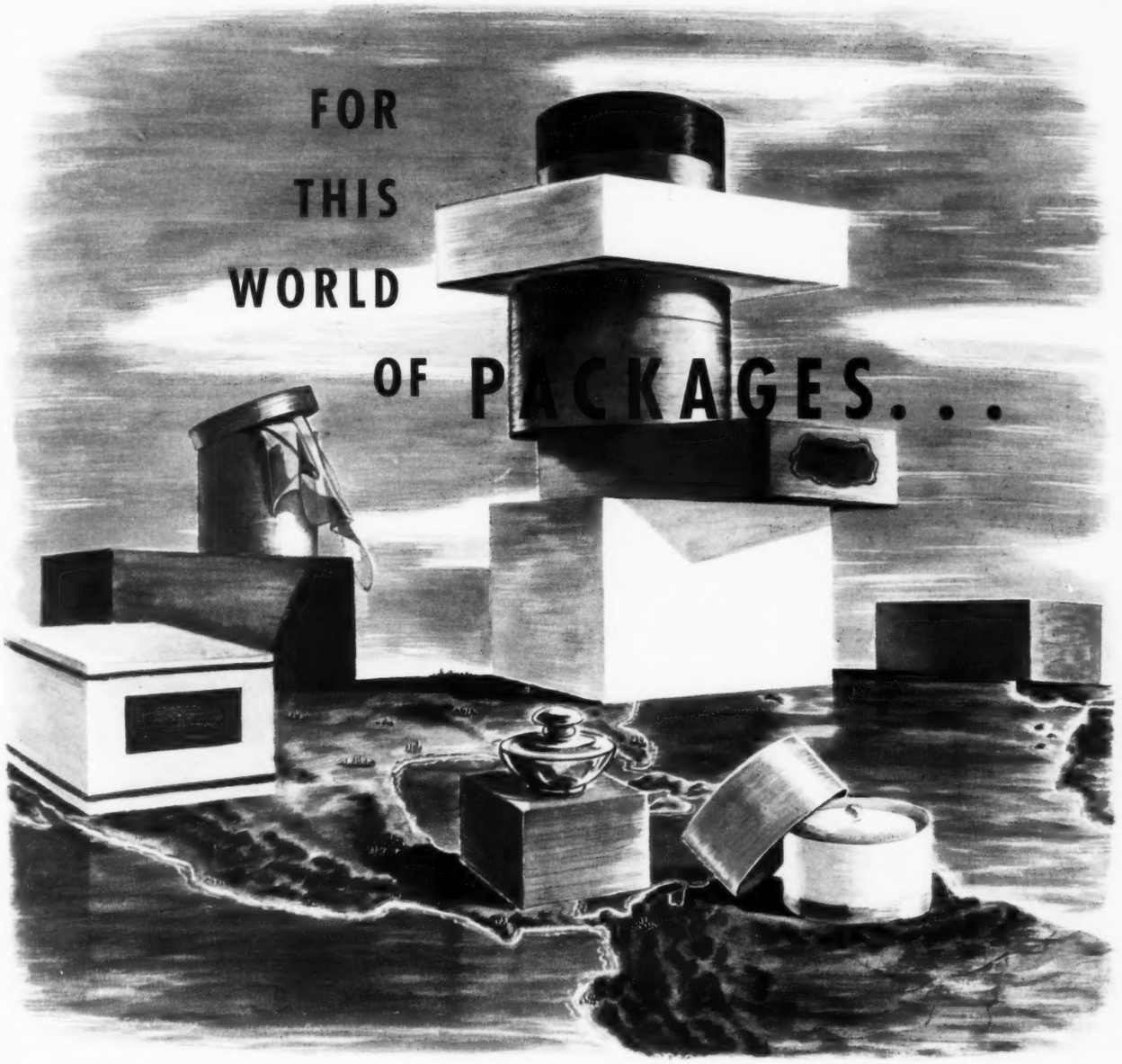
1946
APRIL 2-5
PUBLIC AUDITORIUM
ATLANTIC CITY

VISIT OUR EXHIBIT IN BOOTH No. 116-117

PAISLEY PRODUCTS INCORPORATED

Manufacturers of Glues, Pastes, Resin Adhesives, Cements, and Related Chemical Products

1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 51st STREET, NEW YORK 19, N. Y.



Champion Kromekote

Among the most enticing items on shelves today are those covered or labeled with Champion Kromekote, the cast coated high finish paper patented by and exclusive with this company. The gleaming, glistening surface of Champion Kromekote gives animation to packages of every size and shape, excites customer attention and steps up sales. It prints beautifully by letterpress and offset, and is especially well suited to the packaging of fine merchandise, and for labeling bottled goods. Champion Kromekote is a favorite of manufacturer, merchant and consumer alike.

THE CHAMPION PAPER AND FIBRE COMPANY... Hamilton, Ohio

District Sales Offices: NEW YORK · CHICAGO · PHILADELPHIA · CLEVELAND · BOSTON
ST. LOUIS · CINCINNATI · ATLANTA · SAN FRANCISCO

HOW TO PACKAGE A *Prima Donna*

If you don't happen to have a temperamental product you know someone who has. It has to be coddled in one way or another.

Maybe it is the sly, evasive type always sifting out of the corners. Maybe it needs special spotlighting—with a window type carton. Or perhaps it's the type that's always thirsty, absorbing more moisture than is good for it.

PLANNED PACKAGING knows how to deal with "Prima Donna products". Sift-proof cartons in one case; window cartons for another; Aqua-seal for the product that must keep moisture in or out; grease proof cartons for still another group.

Our complete facilities for making boxboard, testing, designing and converting, give us a special advantage in meeting the wide range of requirements found in a wide variety of products.

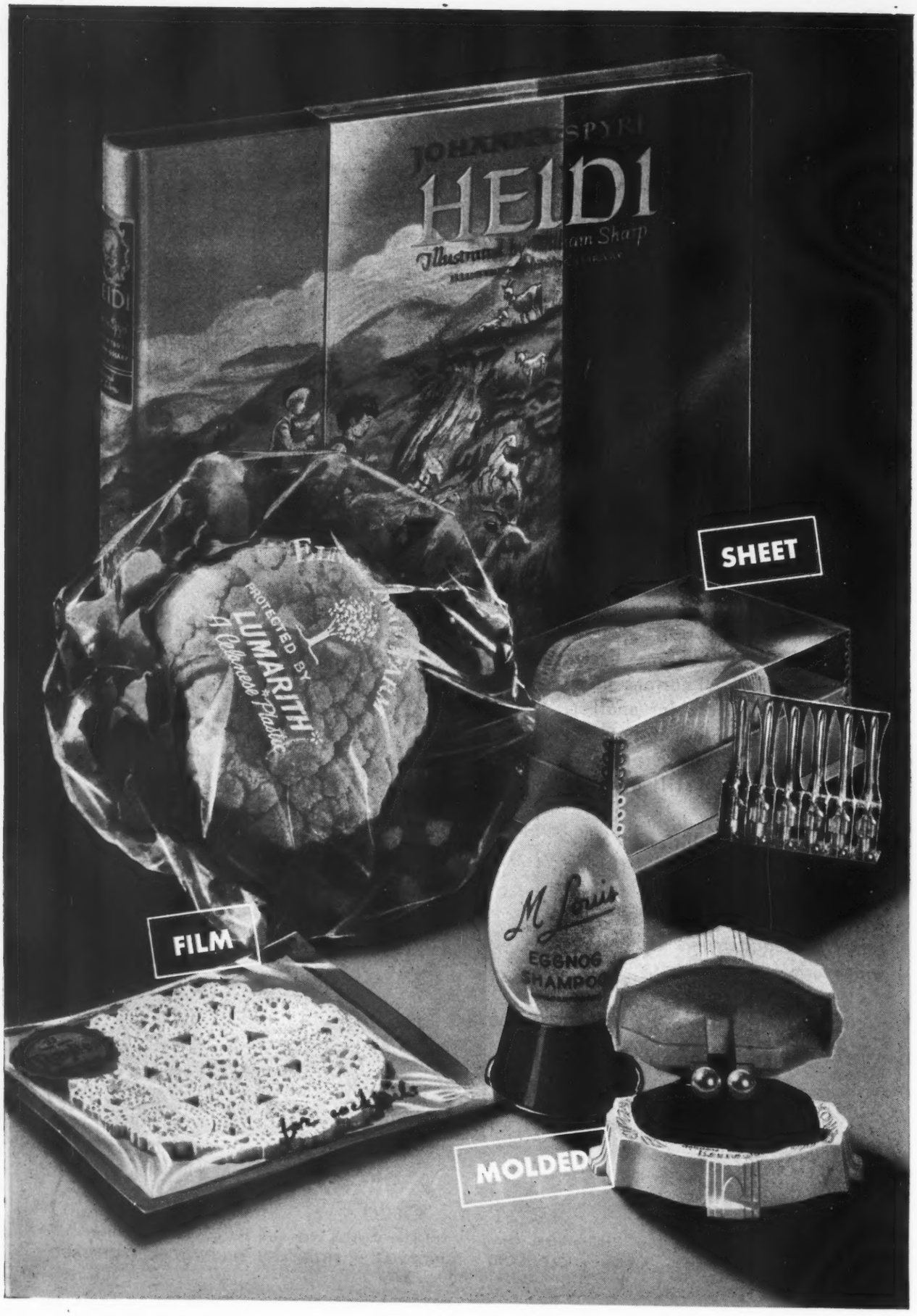
THE OHIO BOXBOARD CO.

RITTMAN, OHIO

Manufacturers of paper board, folding boxes, corrugated and fiber shipping containers, and converted specialties

SALES OFFICES: RITTMAN • AKRON • CLEVELAND • CINCINNATI • PITTSBURGH • NEW YORK • CHICAGO

Capacity 500 tons daily


HEIDI
SHEET
FILM
MOLDED
PROTECTED BY
LUMARITH
A Celanese Plastic
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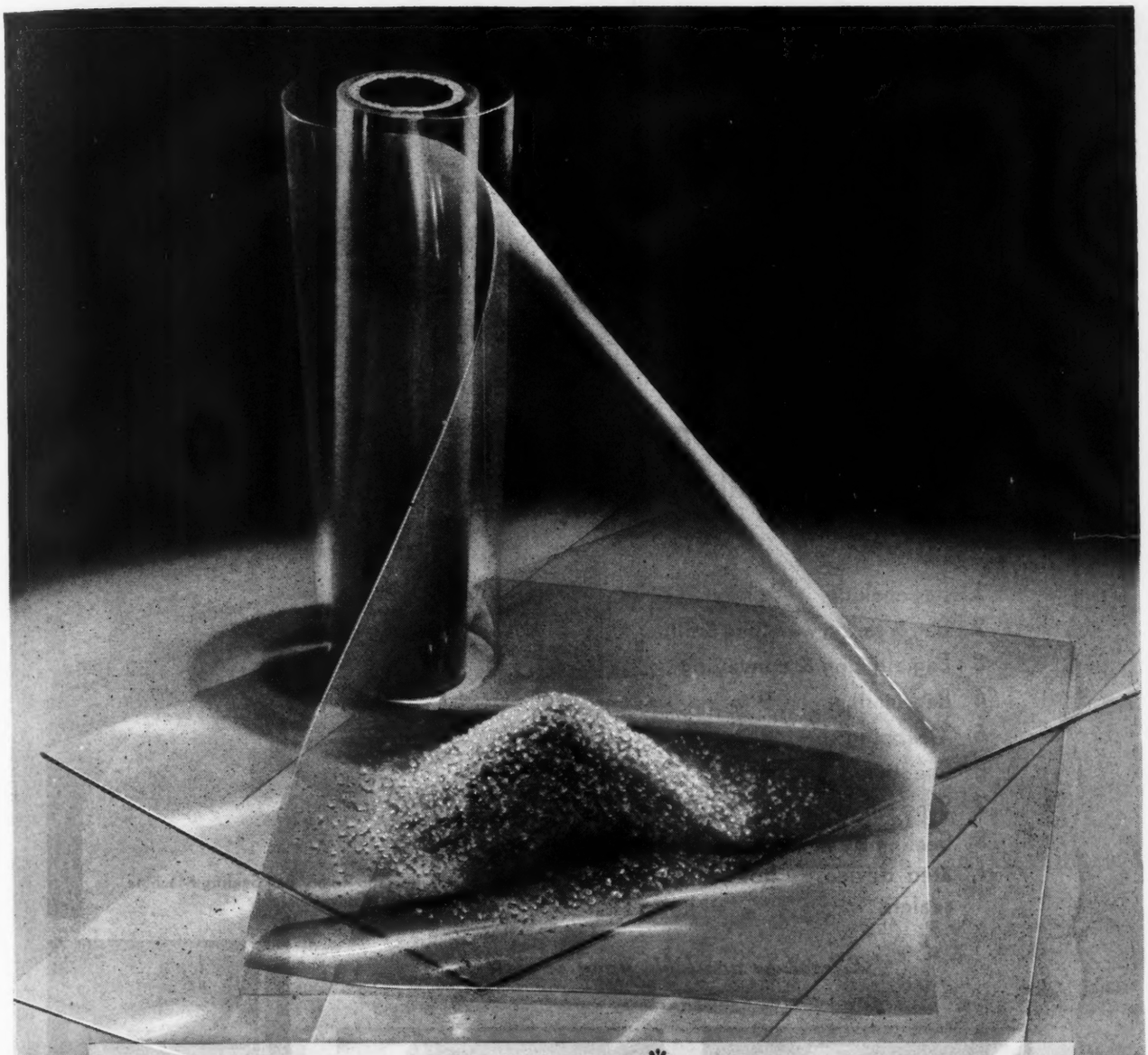
EGGNOG



LUMARITH* A CELANESE* PLASTIC FOR PACKAGING

LUMARITH is *'way out ahead* in consumer appeal. Its sparkling transparency gives showcase attractiveness to shelf and counter products. Lumarith-packaged merchandise—visible to the eye, free of contamination and shopwear—carries its own sales message.

Lumarith in transparent films, sheets and colorful molding materials is a complete and versatile packaging plastic for: transparent wraps and bags, laminated and window boxes, rigid transparent and spiral wound containers, drawn and formed boxes and molded containers.

In your merchandising program you will find many opportunities to use Lumarith. Your plans for better products and greater sales should take into account the tremendous sales-persuasion of this modern packaging plastic. Celanese technical service staff is prepared to supply you with new and informative packaging data. Write for packaging booklet. Celanese Plastics Corporation, a division of Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

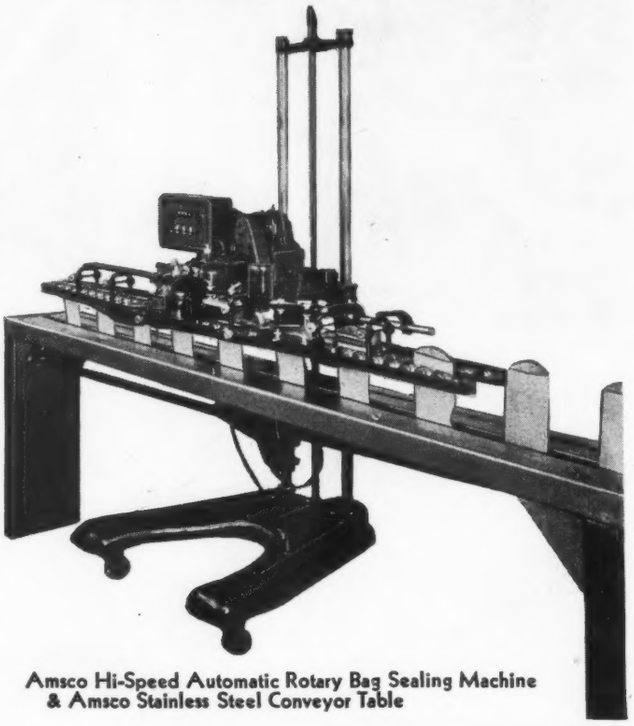
YOU ARE CORDIALLY INVITED
to visit the Celanese Booth at the Packaging Show, Atlantic City
April 2 to 5, 1946

*Reg. U. S. Pat. Off.

AMSCO FOR YOUR PACKAGING MACHINERY REQUIREMENTS

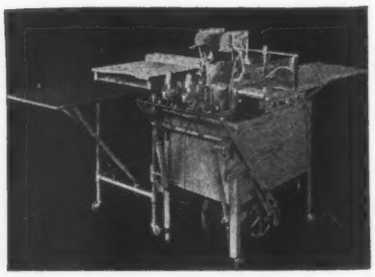
for greater efficiency speed and economy AMSCO offers machinery to perform the following operations:

1. Bag making
2. Bag & carton weighing & filling
3. Bag aligning & conveying
4. Bag sealing
5. Wrapping
6. Sheeting & gluing
7. Sandwich making & wrapping
8. Sealing by hand & foot operated devices — hot plates & sealers

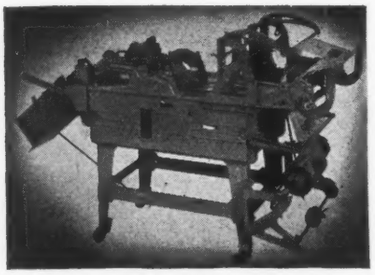


Amsco Hi-Speed Automatic Rotary Bag Sealing Machine & Amsco Stainless Steel Conveyor Table

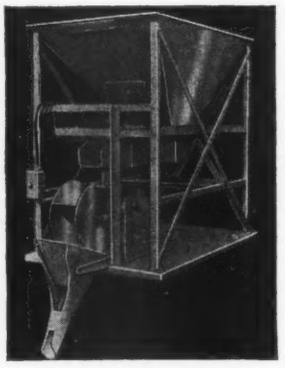
Literature available upon request



Miller Wrapping & Sealing Machine



Simplex Bag Making Machine



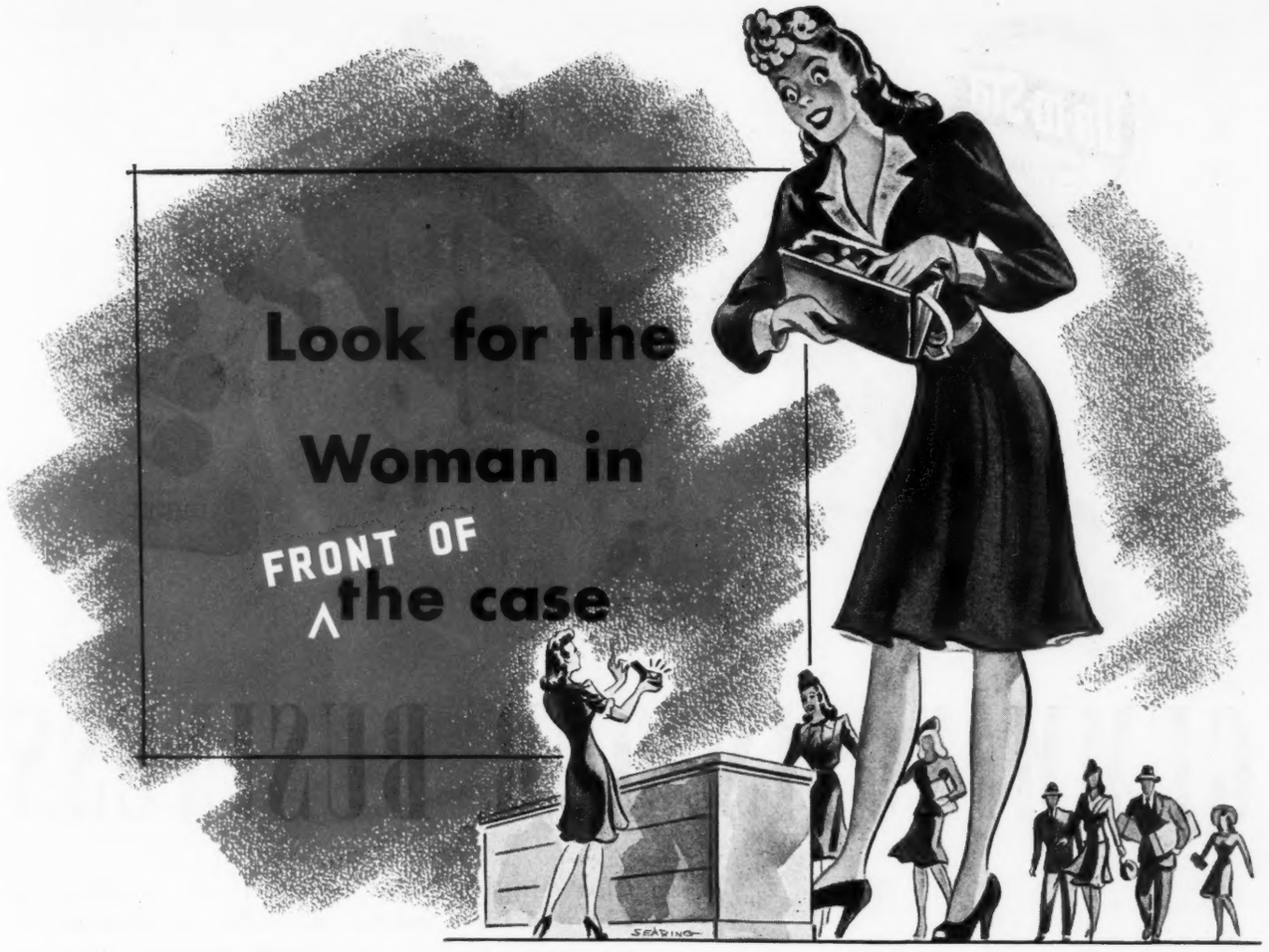
Holm Automatic Weighing & Filling Machine

AMSCO PACKAGING MACHINERY, INC.

31-31 Forty-Eighth Ave., Long Island City 1, N. Y. • STillwell 4-4840

Represented in Mid-West — Miller Wrapping & Sealing Machine Co., Chicago 6, Ill.

Represented on Pacific Coast — Simplex Wrapping Co., Oakland 6, Calif.



YOU ARE FACED with a major sales problem whenever you forget that ¾ of all retail purchases are made by women—and—¾ *of their buying decisions are made on impulse* —at the point-of-sale.

Women are sensitive to appearances—they are drawn to the attractive, repelled by the unattractive—hence the number of buying decisions your product can win *depends on the appearance of your package!* Never underestimate the power of the package.

That's what women SEE at the point-of-sale. Good looking packages attract them. All leading *retail* organizations know this. They—other things being equal—always display those products that come in the best looking packages.

LET RITCHIE WORK WITH YOU to develop a better package at low unit cost. One that will instantly identify, fully protect and conveniently dispense your product—practical—production-planned—easy to fill or pack —to handle, to stack and display—but *above all* designed for eye-appeal, for quality impression—a package that sells!

Never the Power

W. C. Ritchie and COMPANY
8842 Baltimore Avenue • Chicago 17
★ SET-UP PAPER BOXES
★ FIBRE CANS
★ TRANSPARENT PACKAGES

Underestimate of the Package!

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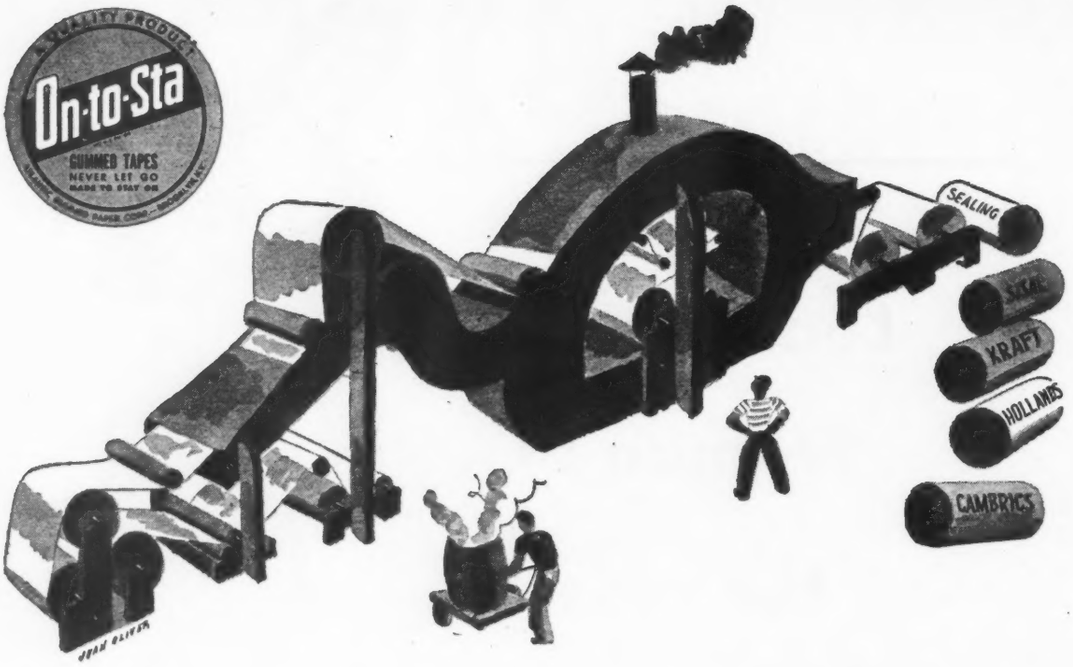


GUMMING IS OUR BUSINESS

That's Right! We're manufacturers of *On-to-Sta* Gummed Tapes and Specialties that are *made to stay on.* Assure yourself of efficient shipping operation and extra protection. . . .

SELECT YOUR GUMMED TAPES AND SPECIALTIES FROM OUR COMPLETE LINE

GUMMED SISAL TAPE ■ HEAVY GUMMED KRAFT ■ GUMMED CAMBRICS • ■ GUMMED SEALING TAPE, PLAIN & PRINTED • ■ "CARPAC" REINFORCED SEALING TAPE ■ ASPHALT LAMINATED WATERPROOF PAPERS, REINFORCED AND DUPLEXED ■ VENEER GUMMED TAPE ■ GUMMED HOLLANDS • ■ "SOLSEAL" WATERPROOF TAPE ■ CREASED GUMMED STAY • ■ COMBINING

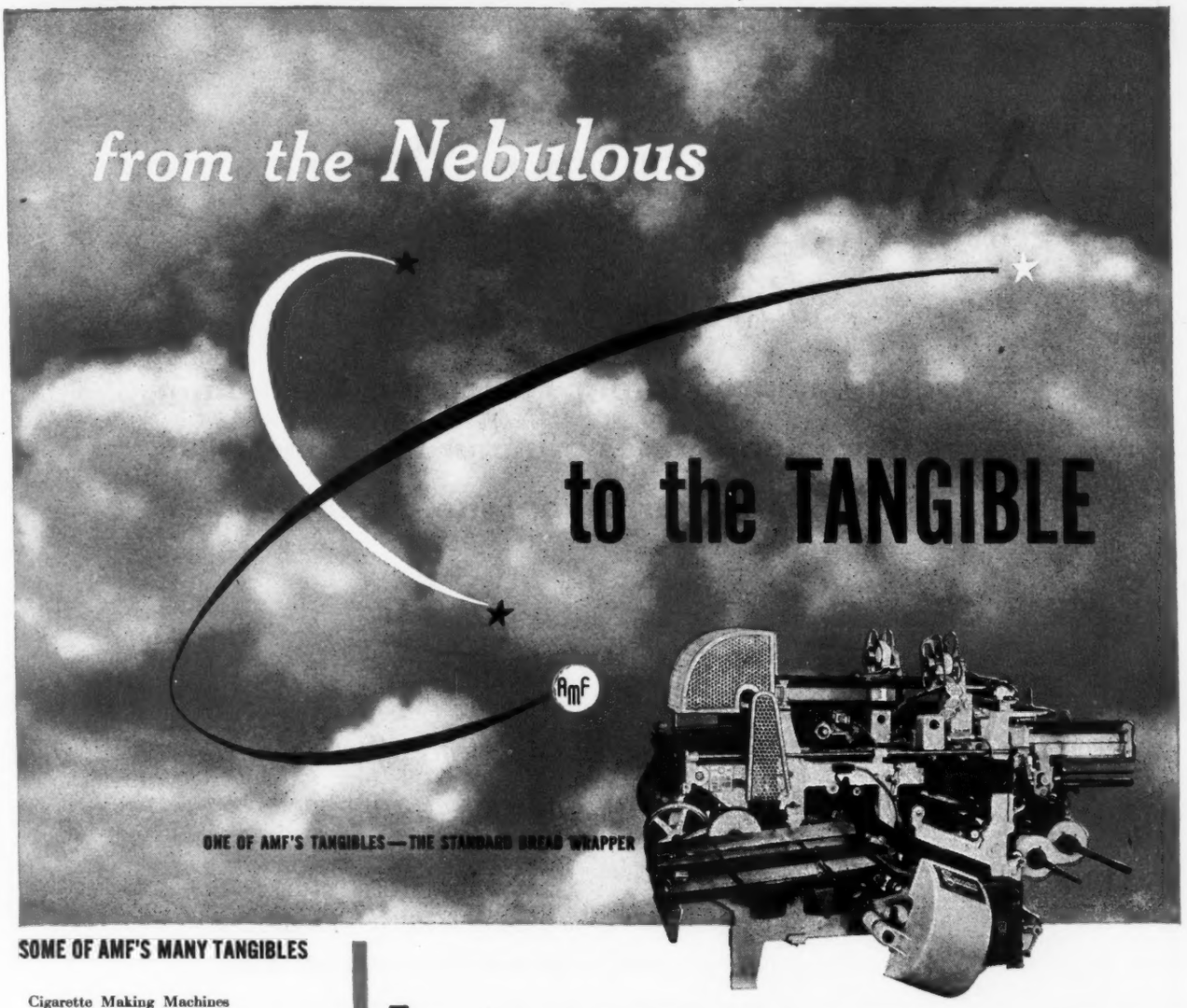
• *SAMPLE BOOKLETS UPON REQUEST*

ATLANTIC GUMMED PAPER CORP.

MANUFACTURERS OF *"On-to-Sta"* GUMMED PAPERS

PLANT & MAIN OFFICE: ONE MAIN ST., BROOKLYN 1, N. Y.

BRANCH OFFICES: PHILADELPHIA • PITTSBURGH • CHICAGO • BUFFALO • BOSTON • ATLANTA • LOS ANGELES • HAVANA



SOME OF AMF'S MANY TANGIBLES

Cigarette Making Machines
Cigarette Packers
Cigarette Tobacco Leaf Stemmers
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Necktie Slip Stitching Machines
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Walstrom Chucks
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Vertical Mixers
Bread Pan Greasers
Pretzel Tying Machines
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Lowerator Dispensers

To create and build tangible machines from nebulous ideas is a task of vital importance to industrial progress. How well American Machine & Foundry Company does this job is evidenced by the number of AMF machines doing a specialized packaging job throughout America. The transition from nebulous to tangible involves a closely coordinated, highly skilled organization backed by a security founded on high standards. AMF represents master engineers working with trained research men. It represents precision construction with durable materials in AMF's own large factories. Important, too, are the thorough laboratory and field tests involved. Machines for every purpose are being designed and built for American industry by these specialists—foremost among these are in the tobacco and bakery equipment fields. Because AMF machine designers are also engineers, business men and economists, they are your guarantee that the machines AMF builds for you will do the job best.

AMF INVITES CONSULTATION ON PACKAGING MACHINERY AND EQUIPMENT PROBLEMS

AMF **AMERICAN MACHINE & FOUNDRY CO.** 511 FIFTH AVENUE NEW YORK 17, N.Y.

AMERICAN ANODE

solicits your problems

in coating, impregnating, cementing, laminating, using latices and mixes of natural rubber, GR-S, Geon, Hycar, Neoprene, Saran

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Pioneer in water systems offers complete laboratory and engineering service

PERHAPS you are not familiar with the remarkable progress that has been made in the field of rubber and plastics water dispersions. It's entirely possible that right now you may be struggling with a problem that could be simply solved by the use of one of these materials.

Our experienced research staff, plus complete laboratory facilities, are available to help you solve your problems and take advantage of the processing economies and safety that are inherent in the use of water systems.

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AMERICAN ANODE
INCORPORATED
NATURAL AND SYNTHETIC RUBBER LATICES, WATER CEMENTS AND SUSPENSIONS

a Triangle installation
for packaging cranberries

REDUCING packaging costs gives you the jump on competion. And neat, temptingly filled, accurately weighed packages stimulate sales. • Triangle installations solve these problems. Triangle packaging lines reduce waste motion and effort, save labor and time • This battery of four Triangle Elec-Tri-Paks at the Makepeace Co., Wareham, Mass., packages cranberries into 1 lb. cellophane bags at the rate of 25 per minute per machine. The weighed load is discharged automatically, thus setting the pace for the operator. Weights are accurate to a small fraction of an ounce, packages are neatly filled. • What's your packaging set-up? Triangle equipment is available for small or large quantity packaging of all types of dry products into all kinds of containers. Write today for a 20-page booklet which shows how other companies package their products with Triangle equipment.

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...look to triangle

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THILCO

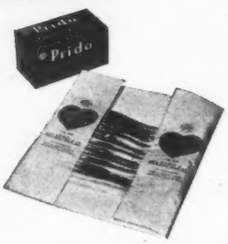
SOLVES your packaging problems

with these FUNCTIONAL papers of sales appeal and protection...

WATERPROOF

WATERPROOF ASPHALT PAPERS

GREASEPROOF

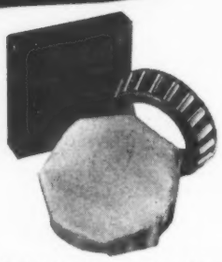


GLASSINES AND GREASEPROOFS

FRESHNESS

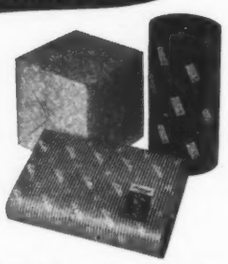
WAXED PROTECTION PAPERS

IDENTIFICATION



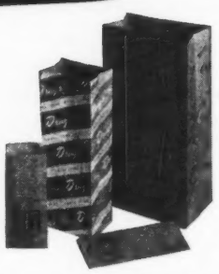
MACHINE DESIGNED PAPERS

DECORATION



PRINTED AND EMBOSSED WRAPPINGS

SPECIALTY BAGS



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THILCO *Functional* PAPERS

THILMANY
PULP & PAPER COMPANY
KAUKAUNA · WISCONSIN

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Perhaps you can't *complete* your plans now... but *now* is the time to *perfect* them. Here are three excellent descriptive folders prepared to help you.

B-132 describes 12 modern fastening machines and methods for efficient, profitable Shipping Departments.

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There are other booklets, too, on other fastening needs in your office or plant... and a new general folder showing fifty representative stitching and stapling machines from nearly 800 in the Bostitch line.

Name it and we'll send it. Use coupon below.

BOSTITCHING
offers you the most in stapling

Experience... 1896 — 50 years specializing in fastening

Engineering... — 18 research engineers

Selection... — Nearly 800 models

Service... — 91 offices, over 200 Bostitching specialists — increasing as products and trained men become available.

BOSTITCH
fastens it better, AND FASTER with wire
ALL TYPES OF STAPLES APPLIED BY MACHINES
ALL TYPES OF MACHINES FOR APPLYING STAPLES

Bostitch (Boston Wire Stitcher Company)
52 Duane Street, East Greenwich, R. I.
(Bostitch-Canada, Ltd., Montreal)

Please send literature checked:

B-132, Shipping room tools and applications
B-157, Bostitching — the modern carding method
B-175, Bostitching for bag sealing

Send other information on fastening for.....

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Send new General Folder B-188

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The Cornerstone of Character in Packaging Papers . . .

Throughout the war years, Marvellum assured its customers that come the tranquil days of peace, this company would unveil to them *new* ideas, *new* designs and *new* sales-stimuli.

Now this Marvellum promise is about to be translated into performance. *Every day* brings us closer to the moment when Papers Distinctive will be spotlighting merchandise on dealers' counters and shelves.

This postwar line of Papers Distinctive will fulfill in every way the merits Marvellum buyers have a right to expect.

Until general distribution of the new line can be effected, we are maintaining regular deliveries on Marvellum standard items. Specify your requirements.

THE MARVELLUM COMPANY

• Papers • Distinctive •

HOLYOKE
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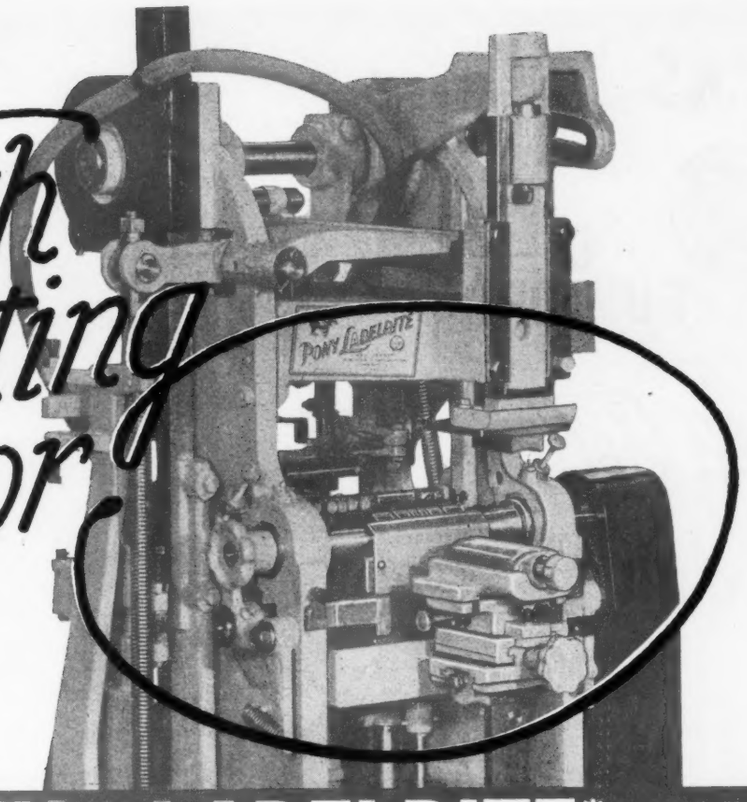
Worth Waiting For



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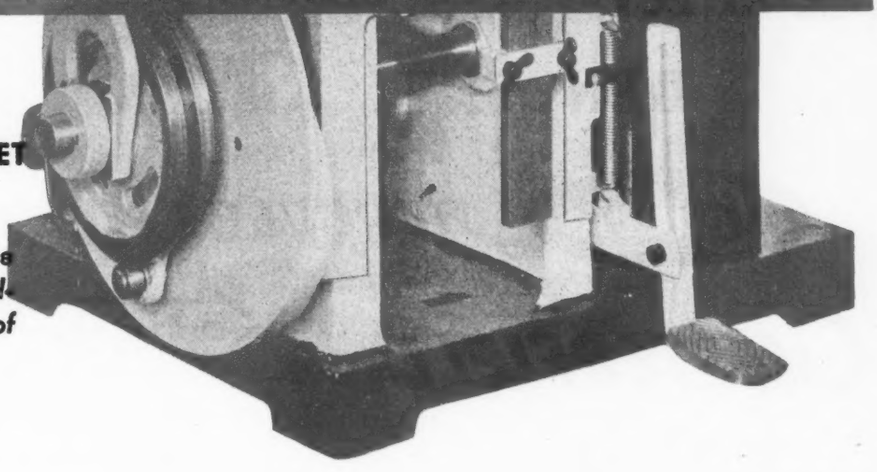
"the Last Word in Labeling Food, Drugs and Cosmetics"

WHY COMPROMISE ON A SUBSTITUTE YOU WILL LONG REGRET ?

Only the PONY gives you the vacuum principle of label-handling PLUS twin-roller method of label glueing.

Ask for details!



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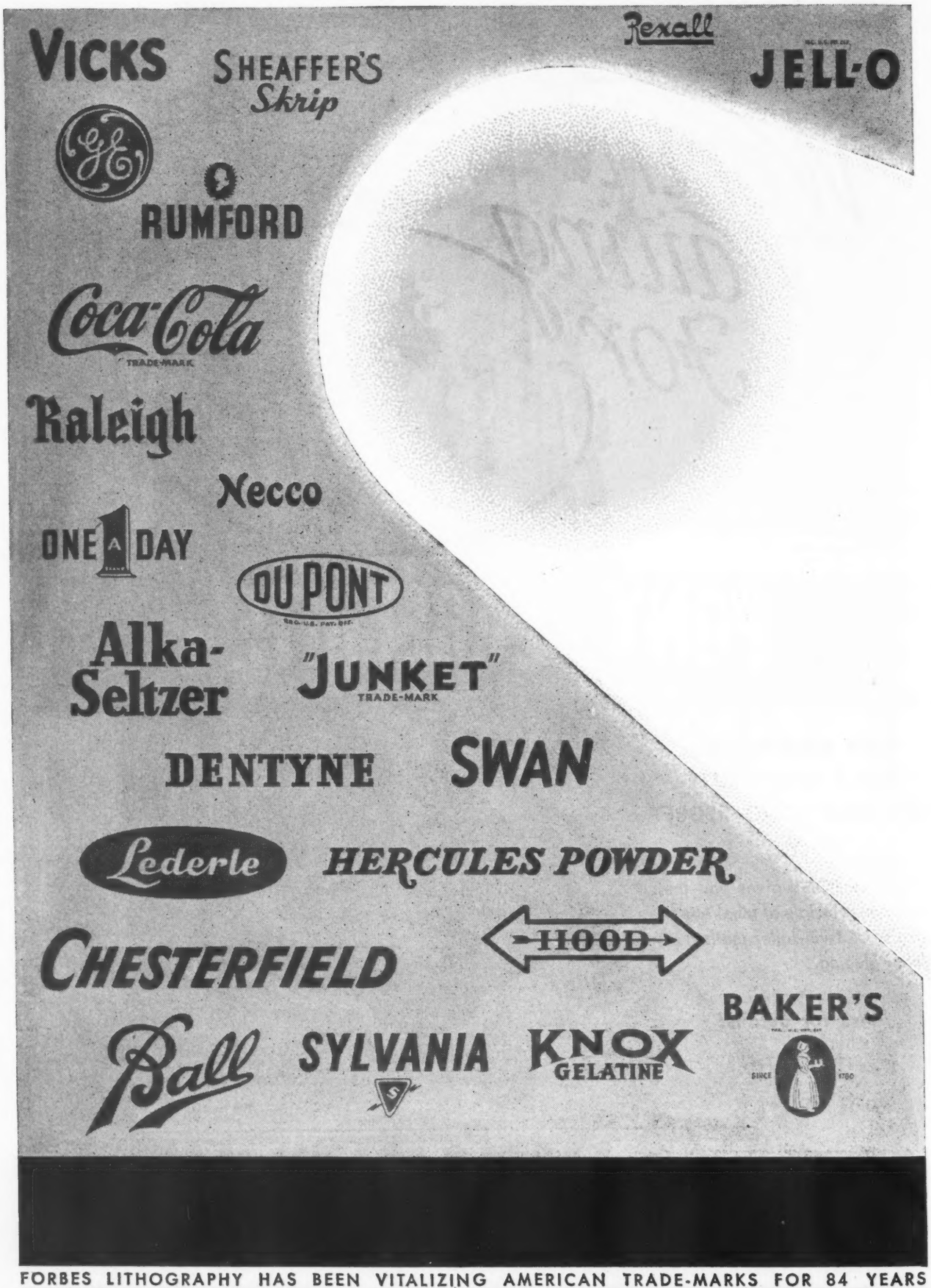
NEW JERSEY MACHINE CORPORATION

CHICAGO OFFICE: 325 WEST HURON STREET

1500 WILLOW AVE. . . HOBOKEN, N. J.

CINCINNATI OFFICE: 1701 CAREW TOWER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FORBES LITHOGRAPHY HAS BEEN VITALIZING AMERICAN TRADE-MARKS FOR 84 YEARS

TIME TO REVITALIZE TRADE-MARKS

The green light of peace is again glowing in America.

NOW is the time to recapture valuable trade-mark and trade name recognition and acceptance, lost under wartime restrictions and during the tremendous mass migrations of consumers into war's fighting and production activities.

Now is the time to remind Americans of the value and integrity inherent in well-known trade names and trade-marks.

A direct and efficient method of accomplishing this is to maintain these vital symbols active at points of purchase and points of use. This can be done effectively on displays, posters, booklets, folders, inserts, labels, wrappers, cartons, calendars, educational material and other lithographed items.

We are helping others in this important merchandising work.

We can help you, too.

FORBES

NEW YORK CLEVELAND **LITHOGRAPH CO.** CHICAGO ROCHESTER

P. O. Box 513 Boston 2

Your Carton

IS IT ENAMEL BRIGHT OR DUSTY DRAB?

A draftsman starts with the best materials—the finest tools. The carton maker, seeking the highest standard, begins with a box board such as RIDGELO CLAY COATED. With this choice goes the assurance of clean, bright, uniform reproduction. It eliminates the rough, dull prospect of inferior boards.

The cost of RIDGELO CLAY COATED is very small too, compared with total packaging figures, thus you can afford the best! Sum up RIDGELO as a pleasant invitation to your prospects—the buyers who must judge your product by its container. . . . Make your folding cartons

Ridgelo CLAY COATED BOXBOARDS

MADE AT RIDGEFIELD, N. J., BY LOWE PAPER COMPANY

Representatives: Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
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THE GREATEST ACHIEVEMENT IN

STANDARD ROTOGRAVURE

THE NEW

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MULTI-COLOR ROTOGRAVURE

PRINTING PRESS

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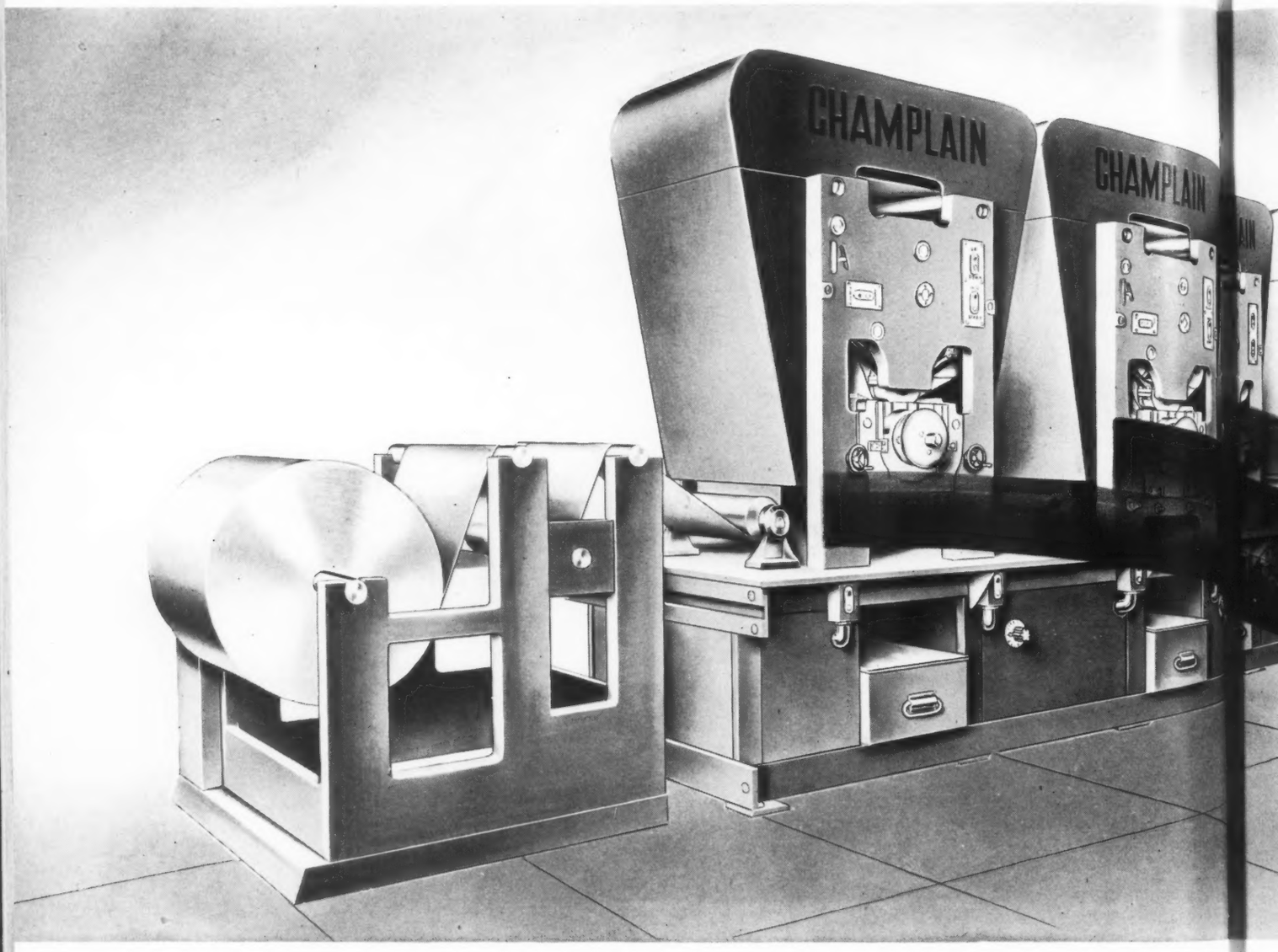


TEN YEARS IN THE MAKING

The majority of important practical improvements in commercial rotogravure have been originated and developed by Champlain, its users and associates.

CHAMPLAIN has the "KNOW HOW"

Champlain, with its wealth of experience and engineering knowledge, substantiated by so many successful installations can best offer the conversion and printing trades a simple, efficient and profitable Rotogravure Printer.

PRECISION BUILT FOR

Automatic, micro-sensitive feed controls that maintain web tension at any speed.

Constant tension roll rewind employing a new electro-magnetic principle that delivers perfectly wound rolls at any speed.

Controls on individual units — duplicated on a master control panel.

...NEST PRECISION PRESS

ROTOGRAVURE AT ITS BEST

SPEEDRY —

Improved design sealed ink fountain features side removal of cylinder and inking mechanism, eliminating press wash-up.

360 DEGREE RUNNING REGISTER CONTROL —

Hairline register, motor and gear controlled by push button or electric eye.

CONTROLLED IMPRESSION PRESSURE —

Micro-accurate pressure to parts of a pound. Motor or hydraulic powered with visual guage.

LO-TEMP. DRIERS —

New Champlain individual driers using a high velocity balanced air system that dries inks at amazingly low temperatures.

WEB CONTROL —

Unique breaker roll design that permits raising and lowering impression cylinder without affecting tension or register.

HIGHSPEED PERFORMANCE

Unit type of assembly for easy addition or removal of color and fabrication units.

Non-flex, unisteel base construction with machined provision for additional sections.

Web-threading height hand high on all sizes.

10 YEARS IN THE MAKING

CHAMPLAIN *Speedry*

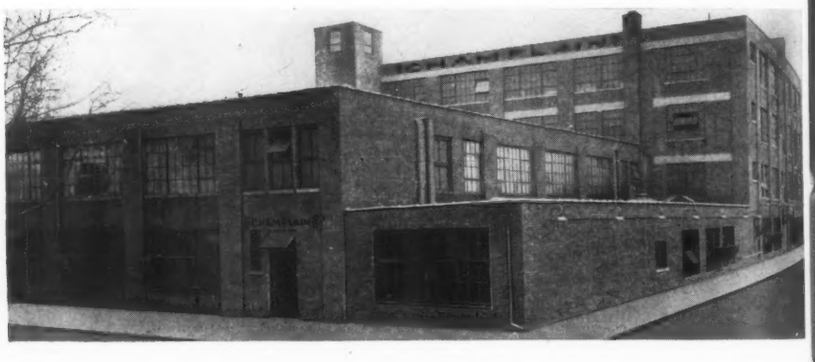
MULTICOLOR ROTOGRAVURE PRINTING PRESS

In 5 PRINTING WIDTHS. *Sizes:*

8" — 14" — 20" — 26" — 36"

Rewind or sheeter delivery

Practical Rotogravure for the production of wrappers, labels and cartons on a wide variety of stocks.



CHAMPLAIN'S NEW HOME — an outstanding example of modern factory construction, scientifically lighted production floors with acoustic ceilings which practically eliminate machine noise. New tools for high speed precision machines that represent the latest word in war-time machine tool development, a model plant for the production of the world's finest rotogravure and rotary letterpresses.

FOR SPECIFIC INFORMATION ABOUT YOUR PRINTING PROBLEM WRITE

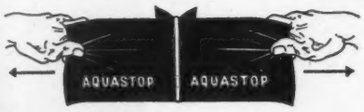
CHAMPLAIN

STANDARD ROTOGRAVURE

CHAMPLAIN COMPANY, INC. • 88 LLEWELLYN AVENUE, BLOOMFIELD, N. J.

Telephone • BLOOMFIELD 2-7350

HERE IS THE PACKING CASE LINER that BREATHES



No cracking

No tackiness

No flow

No loss of flexibility

Retains waterproofness

"Breathes" a minimum of 5 grams per 100 sq. in. per 24 hours

Withstands minimum hydrostatic pressure of 40 lbs. per sq. in.

Positive fool proof seal

Look us up at
BOOTH 33
Packaging Exposition
ATLANTIC CITY
April 2 to 5, 1946

AQUASTOP, a new technical development in packing case liners for waterproofing shipments, has proved its exceptional qualities under extreme conditions.

For instance, during the hurricane on the Atlantic Coast in 1944, AQUASTOP processed boxes, among others, were subjected to submersion and floating in water at a flooded pier while awaiting shipment abroad. AQUASTOP lined boxes were the only ones which provided adequate protection and *kept the contents dry.*

While this incident was an extreme test, it exemplifies the margin of safety that AQUASTOP provides.

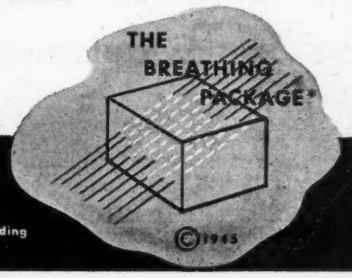
AQUASTOP *"breathes"*

One of the many qualities which marks AQUASTOP as exceptional is its high rate of moisture vapor transmission. The *minimum* rate is 5 grams per 100 sq. in. per 24 hours. This feature prevents ruinous corrosion from attacking finished products encased in AQUASTOP. Any moisture-laden air that may be in the container when packed escapes to the outside through this "breathing" liner before condensation takes place.

Other qualities, besides those listed at the left, include abrasive and scuff resistance, thus eliminating any special packing procedure when using various types of wooden packing boxes; elasticity of the fabric combined with the flexibility of the seam allow AQUASTOP to withstand damage from distortion when packing cases are roughly handled; no change in physical characteristics over a wide range of temperatures; AQUASTOP cement makes a "chemical weld" at the seams, strong as the material itself; or the material can be commercially heat sealed.

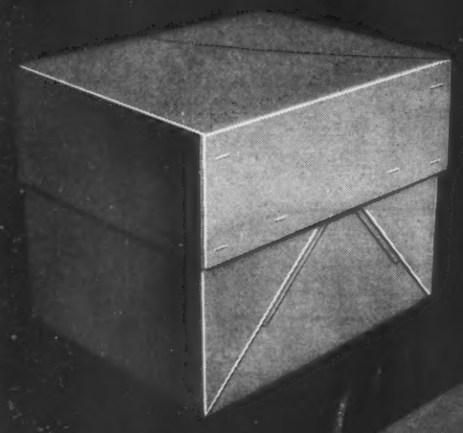
Investigate this new modern case lining. Write for new illustrated AQUASTOP brochure showing how AQUASTOP can be applied to your peacetime shipping problems.

PROTECTIVE COATINGS CORPORATION
681 Main Street Belleville 9, N. J.

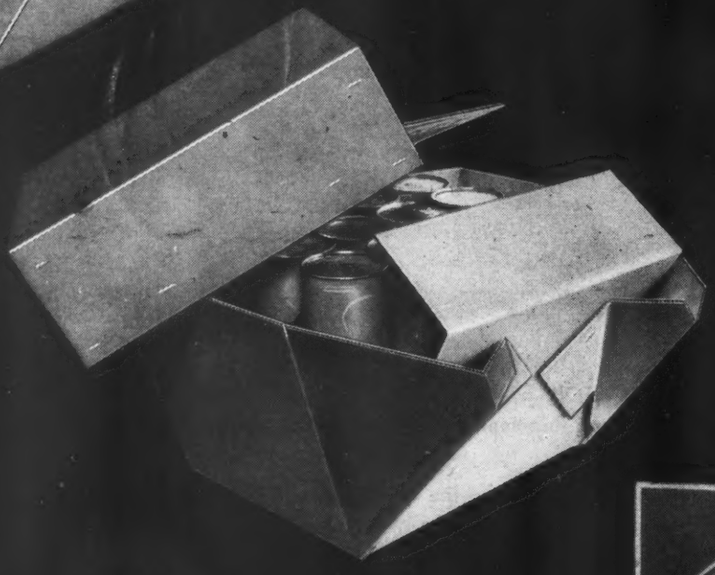


AQUASTOP

*Pat. Pending



SHIPS COMPACTLY



OPENS READILY

PAT. N

● This combined shipping unit and jumble display automatically spotlights your product in cartons or cans. A product of WALDORF ingenuity, to which we proudly affix this label . . .

WALDORF PAPER PRODUCTS COMPANY

SAINT PAUL, MINNESOTA

WHOSE BUSINESS IS THE DEVELOPMENT AND PRODUCTION OF GOOD PACKAGING.

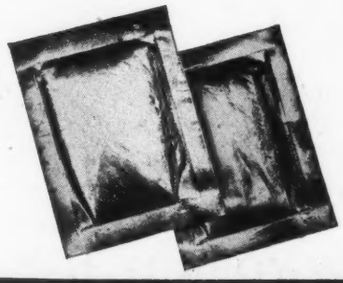
Curls NOW COME IN

ALCOA FOIL PACKETS

It's the mobile method of getting a permanent wave. The hair is wound around a spool, then covered with a packet containing powdered chemicals that generate heat when moistened with oil or water. The girls don't have to sit stiff-necked, wired to a machine.

The chemical packets are made with Alcoa Aluminum Foil on one side and moisture-permeable paper on the other, heat-sealed together at the edges. The aluminum foil's principal purpose is to distribute heat evenly. Besides, it's attractive . . . especially when printed with a colorful design.

Anyone who puts up powders or solids in single doses can steal an idea from this. Put Alcoa Foil on *both* sides of a packet and no moisture can get in. You can fill and seal these packets rapidly and economically on automatic machines. ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh 19, Pennsylvania.

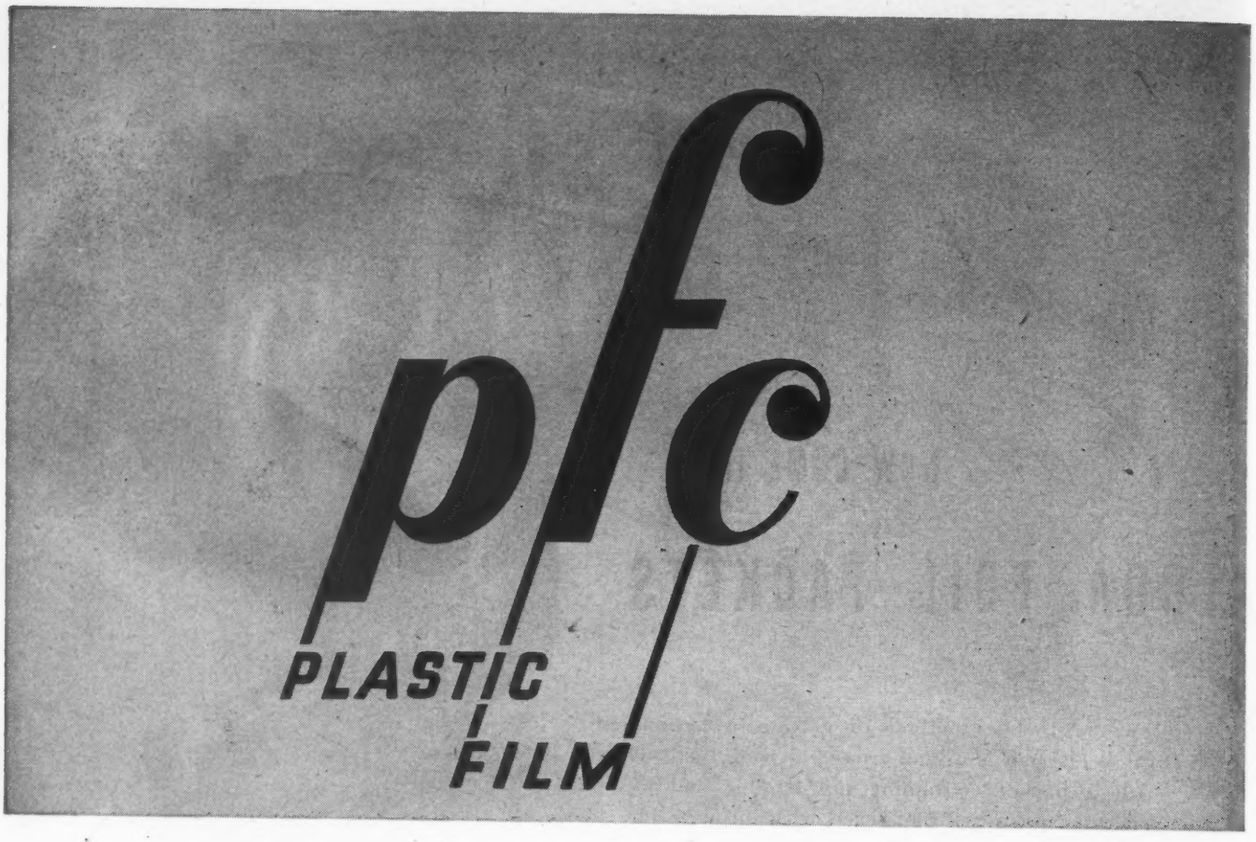


SEE THESE PACKETS MADE AT THE PACKAGING EXPOSITION

Alcoa Booth, No. 201, Atlantic City, April 1-6

ALCOA

ALCOA ALUMINUM FOIL



for Scores of Vital Jobs

PLASTIC FILM CORPORATION
NEW YORK OFFICE: 475 FIFTH AVE., NEW YORK 17, N. Y.
PLANT AT: PLAINFIELD, CONNECTICUT

FREE COST ANALYSIS ON YOUR CARTON CLOSING!

REGARDLESS of what method you are now using to close your corrugated or solid fibre containers, you should get our cost analysis for handling your work with Morrison wire-stitching machines. The cost analysis does not obligate you in any way and you can obtain it by merely filling in and mailing the coupon at the bottom of this page.

When you use Morrison Stitchers your cartons will be far stronger, pilfer proof and neater in appearance. The machine does all the work—cutting, forming, driving and clinching the wire in one continuous operation—and can be operated by inexperienced help. Saves time and brings your costs way down. *MAIL THE COUPON!*

MORRISON STITCHING MACHINES

HARRIS-SEYBOLD-POTTER CO.

General Sales Office, 4510 East 71st Street, Cleveland 5, Ohio

Note: We also manufacture a complete line of book, steel, metal and aircraft stitchers. Sales and Service Representatives in all principal cities in the United States and Canada.

Model SLA Morrison 15" Standard Arm Stitcher

For suit boxes, telescope boxes, set-up boxes, three-piece boxes and many special applications. Similar machines are Model SLB with 25" arm and Model SLC with 33" arm.

MORRISON STITCHING MACHINES, HARRIS-SEYBOLD-POTTER CO.
General Sales Office, Dept. M-36, 4510 East 71st Street, Cleveland 5, Ohio.

We use Tape_____ Glue_____ Tape and Glue_____ Staples_____

Average carton size used_____ One_____ or three_____ strips per end

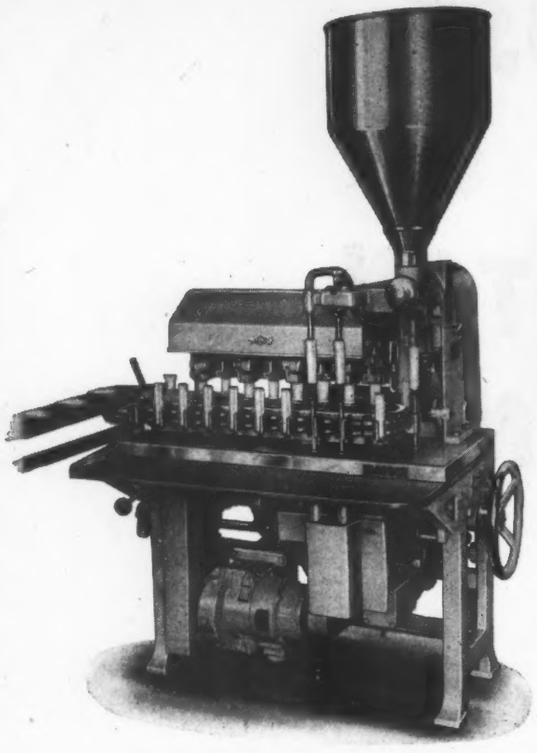
Number of staples per carton_____ Approximate number of cartons per year_____

*Company*_____

*City and State*_____

*Attention Mr.*_____

PRECISION-BUILT MACHINERY · · · · · · ·



ARENCO TUBE FILLING MACHINE

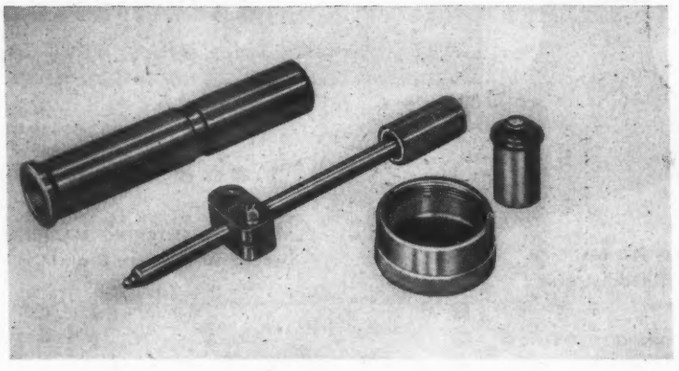
This machine fills, closes and seals collapsible tubes. It handles pastes, creams, lotions and liquids.

ARENCO MACHINES *Feature*

1. Automatic cap tightening.
2. Automatic tube cleaning before filling.
3. Positively correct quantity in each tube.
4. Clean filling—no spattering of inside closure wall—no material trapped in folds.
5. No tube, no fill—no material delivered from filling nozzle if tube is missing.
6. Ample passage for material—no valves or long tube connections. No squeezing to change consistency or viscosity of material.
7. Quick cleaning when changing from one material to another.
8. Quick changing from one tube to another.
9. All parts of machine easily accessible for control, lubrication, and cleaning.
10. Stainless steel or other non-corrosive metals are used in all parts contacting the materials.

ARENCO Saves Time

At the right are shown the only parts of the pump which have to be removed for cleaning or when changing from one material to another. Complete change from one tube size to another requires 25 minutes only.



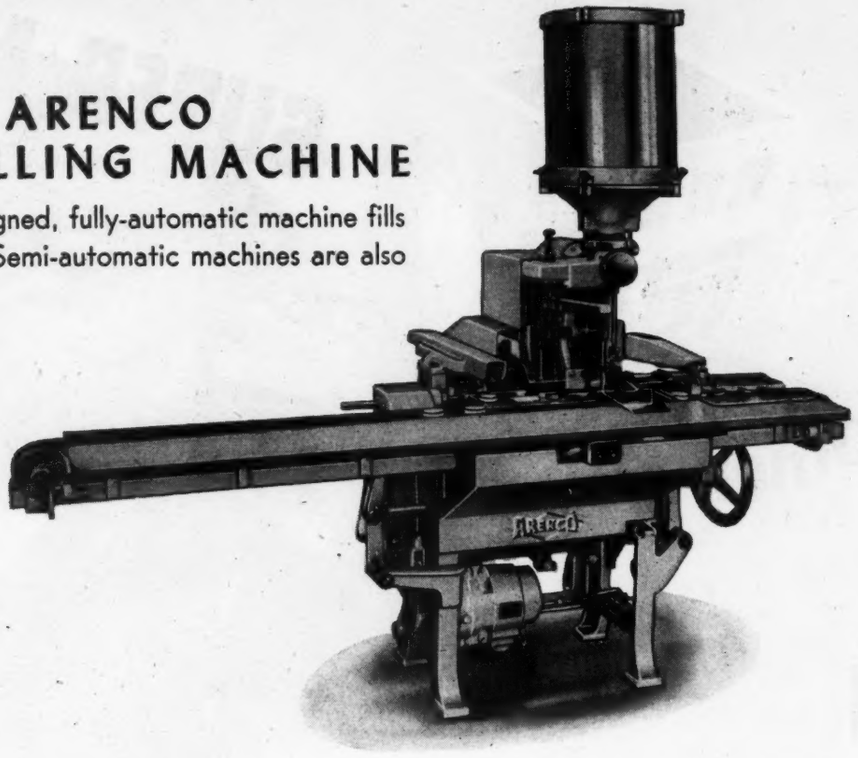
ARENCO

THE ARENCO MACHINE COMPANY
INCORPORATED
25 WEST 43rd STREET • NEW YORK 18, N. Y.

ARENCO KNOWN THE WORLD OVER

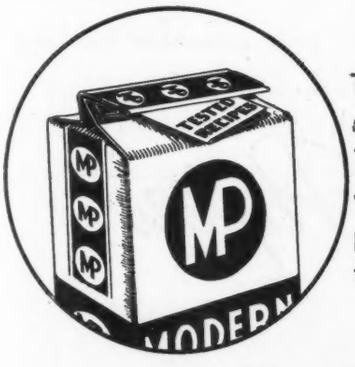
ARENCO JAR FILLING MACHINE

This newly designed, fully-automatic machine fills jars and cans. Semi-automatic machines are also available.



OTHER ARENCO MACHINES

There is a full line of other Arenco machines for the weighing, filling and closing of flour, sugar and other granular materials packed in paper bags or cartons—also Arenco machines for making satchel bottom and square bottom bags.



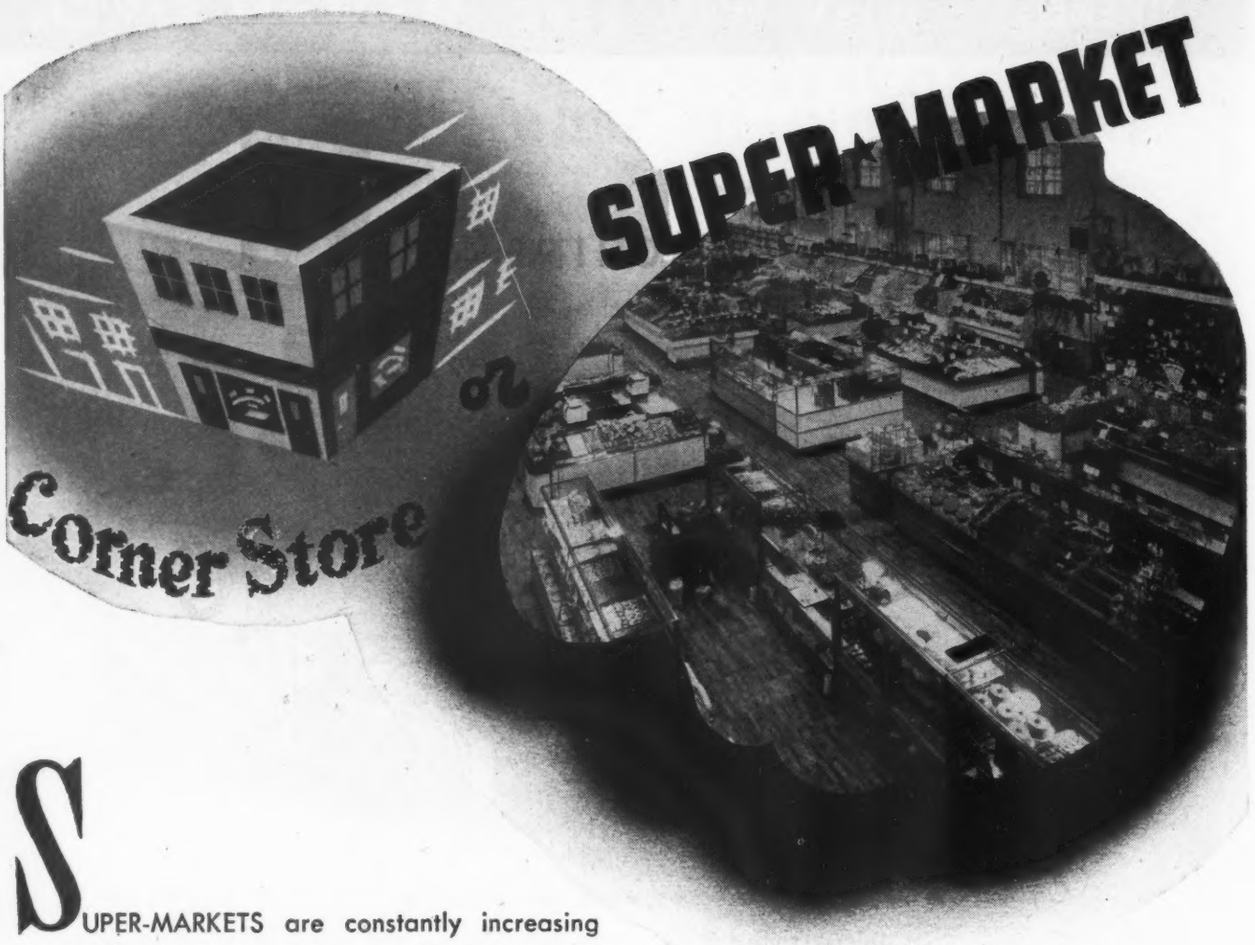
SEALED TRIPLE FOLD

The Arenco triple bag closure is neat, tight and practical. The sealing strip covers the fold and extends part way down the sides of the bag. There is no adhesion to the bag top. When the strip is slit, the bag opens without tearing or pulling. The closure can be folded back in its closed position easily. An advertising card or pamphlet can be placed inside the folds automatically.

Fully Equipped Service Stations in New York, N. Y. and Tampa, Fla.

THE ARENCO MACHINE COMPANY
INCORPORATED
25 WEST 43rd STREET • NEW YORK 18, N. Y.

ARENCO



SUPER-MARKETS are constantly increasing in popularity because the housewife finds everything she needs under one roof. It's a one-stop job that always saves time, and often saves money.

Like a balanced meal, packaging also requires careful shopping for many different materials. Each individual product must have exactly the right combination of appearance, protection, production efficiency and economy.

Riegel, many years ago a "corner store" with only a few highly technical papers, is now the largest "Super-Market" for printing, industrial and special packaging papers. They range from a 16 lb. glassine to a 400 lb. pattern paper, and the service we render is highly individual . . . adapting our papers to your needs.

Why not accomplish your objectives the "one-stop" Riegel way?

600 RIEGEL Papers

The Riegel sample files contain more than 600 different grades—a gold mine for the paper buyer who wants the best possible combination of protection, production efficiency and economy, to meet his own individual requirements.

We make glassine, greaseproof, sulphite, wet-strength—printed, embossed, resin-impregnated, laminated, oiled, lacquer-coated, waxed, dry-waxed—packaging papers, converting papers, printing papers and industrial papers in endless variety.

RIEGEL PAPER CORPORATION • 342 MADISON AVENUE • NEW YORK 17, NEW YORK

Point of sale is the place where your customers, strongly influenced by the attractiveness of the package, eventually buy the product they want. That's why packaging deserves a priority on importance—why you should enlist fine creative talents available for decorative papers attractive to the eye, or utilitarian papers that prompt the sale of your product.

Here at Converter Corporation, many types of treatment and materials are employed to produce sales and eye appeal in packages—printing, coating, embossing, laminating and impregnating of papers, foils, fabrics and textiles, or combinations of them. Converter Corporation is therefore in an ideal position to fulfill many of your packaging needs.

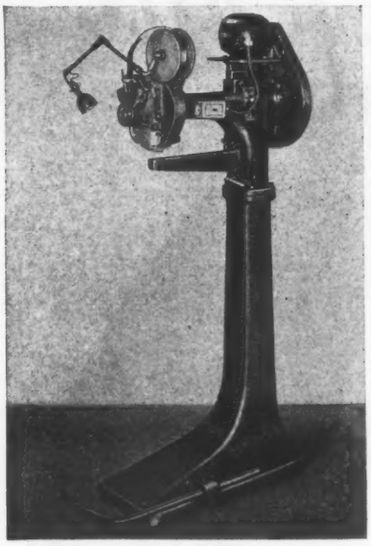
• • • LABORATORY

A well equipped laboratory is in operation at our plant, for the development of ideas and improvement of materials and methods with which to serve you. These facilities are augmented by a creative department devoted to design and color.

Converter
CORPORATION

CLINTON, MASSACHUSETTS

C·C



Bliss Heavy Duty Box Stitcher

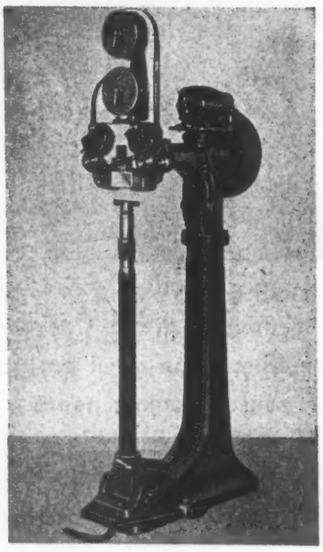
Built for heavy duty work on all grades and thicknesses of boxboard used for corrugated and solid fibre shipping containers; also for telescope containers, suit boxes, set up boxes, folding boxes, cracker caddies, display boxes, etc.

Available in 15″, 25″ and 33″ throat lengths, or longer for special requirements. Drives standard ribbon or hybar wire. Speed from 240 to 400 stitches per minute.

Can be furnished with 45° head; tables or gauges; or other special accessories.

Also built with special stitcher head to drive stitches with extra long legs, for such purposes as attaching boxboard to wood.

Extra heavy head available for stitching through steel and other metals.

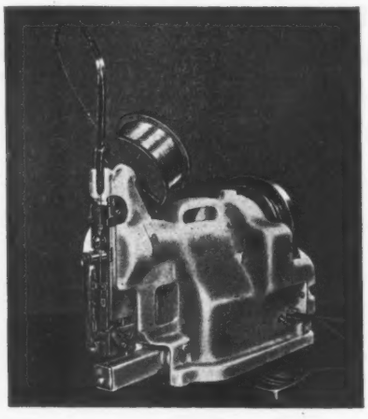


Bliss Duplex Head Bottom Stitcher

Drives two stitches, spaced $2\frac{1}{2}$″ apart, at each operation. Speed up to 600 stitches per minute. No adjustment for various sizes of boxes. Uses standard ribbon or hybar wire.

A popular and profitable machine in plants handling large quantities of boxes for canned goods, bottled goods and other food products, shoes, tissue paper, soap, etc. Can bottom stitch at speeds as high as 10 to 18 per minute.

Makes possible faster production and lower cost.



Boston Portable Bench Stitcher

You will often find it more convenient to bring this BOSTON PORTABLE BENCH STITCHER to the work to be stitched rather than carry the work to the stitcher. Operates on lighting current—solenoid operated foot pedal.

Stitches articles to cards, small boxes, filled bags and similar work, at high speeds. Has 4 inch throat length and uses No. 25 to No. 30 round wire. $\frac{3}{8}$″ or $\frac{1}{2}$″ crown. Also $\frac{1}{4}$″ crown for No. 25 wire only.

SEE THESE MODERN EFFICIENT STITCHERS AT THE PACKAGING EXPOSITION, APRIL 2-5 OUR BOOTH IS NO. 32

DEXTER FOLDER COMPANY, 330 West 42nd Street, New York 18, N. Y.

Chicago: 117 West Harrison Street Philadelphia: 387 Bourse Building Cincinnati: 1335 Paxton Street

PAPERS
for
PROTECTION
. . . against moisture and dust, corrosion and insects . . . protection, in short, against every packaging hazard.
Newark Paraffine & Parchment Paper Co. has specialized in the manufacture of protective papers for nearly a half-century. We produce sulfites, glassines, krafts, with a wide variety of protective coatings including paraffin, microwax and plastic finishes.
Our Art Department specializes in designing the most attractive wraps without sacrificing protective qualities. We service all industries from foods to tools.
Our Engineering, Art and Development staffs will be glad to answer your inquiries.
NEWARK CO.

NEWARK PARAFFINE & PARCHMENT PAPER CO.

Established 1903

50 Jelliff Ave., Newark 8, New Jersey

Mills at Bittston, Pa. and Newark, N. J.

"Dependably strong"

means KLEENEX

—and only Kleenex has the Serv-a-Tissue Box

PIONEERING
in the making of
ADHESIVES THAT WORK

Kleenex Tissues rank high among the most popular household items in millions of American homes. And the convenient, attractive Serv-a-Tissue carton is one of the strong reasons why tissue users prefer the Kleenex brand.

The makers of Kleenex tell us, "For many years, Arabol Adhesives have been successfully used in the sealing of our cartons. Rarely, if ever, does a customer have any cause for complaint on the performance of the package. Equally rare are any cases of spoilage and rejection. That's mighty important at any time. It's *remarkable* — under today's conditions of round-the-clock operation."

It is Arabol's aim always to supply the one most efficient adhesive for each particular need. Out of our long service to a hundred industries, there are now 10,000 adhesives formulas in the Arabol Laboratories. Your Arabol Representative knows adhesives; see him when he calls.

THE ARABOL MANUFACTURING CO.

Executive Offices: 110 East 42nd St., New York 17, N. Y. CHICAGO—54th Avenue & 18th Street
SAN FRANCISCO—30 Sterling Street • *Branches in Principal Cities* • *Factories in Brooklyn, Cicero, San Francisco*

Adhesives?... ARABOL!

You get a balanced package...

with Du Pont Cellophane

The *right* merchandising advantages . . . the *right* protective advantages . . . at the *right* cost. It's this balance that makes a package truly effective.

The transparency of Du Pont Cellophane makes a product rank high from a merchandising standpoint. It becomes its own salesman. It's eye-attracting . . . and eye-convincing.

This package also gives the product the protection it needs. Sanitary protection against handling and soilage . . . moistureproof protection against spoilage.

It's the right packaging material from the cost angle! . . . Transparency plus protection *at lowest cost.*

Although the demand for Du Pont Cellophane still exceeds the supply, we hope the day is now not far off when there will be enough to enable our converters and ourselves to meet all needs. In the meantime, write for your copy of "The Post-War Food Dollar, 2nd Ed." An interesting study of the war's effect on food-buying habits. E. I. du Pont de Nemours & Co. (Inc.), Cellophane Division, Wilmington 98, Delaware.

DU PONT
REG. U. S. PAT. OFF.

Cellophane

Shows what it Protects—at Low Cost

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

Appealing-Both
HEMINWAY
Heminway
Corporation
Factory—
Waterbury, Conn.
30 Rockefeller Plaza
New York 20, N. Y.
ROUND BOXES • SETUP BOXES • NOVELTY BOXES • PAPER CANISTERS • CATALOG PRINTING • PAPER DRAWN PRODUCTS

Pack Safely IN ALCOA ALUMINUM TUBES

Alcoa Aluminum Tubes are "good to the last squeeze". Strong . . . they don't spring leaks and get messy. Soft . . . being thoroughly annealed they are pliable for easy squeezing. Light . . . they cut down shipping costs. Attractive . . . they are expertly lithographed in crisp, clear colors. Non-toxic . . . they are safe to use for all products.

If there is any question of chemical reaction of any kind between aluminum and your product, the Alcoa Packaging Laboratory will conduct tests to determine what type of interior protective coating will be needed to assure a corrosion resistant, satisfactory package.

Since 1921, when Alcoa produced the first aluminum collapsible tubes made in America, Alcoa has studied the packaging of preparations of all kinds. This long experience is assurance that you will find the correct answer for your needs when you buy Alcoa Aluminum Tubes.

Made in standard diameters ranging from $\frac{5}{8}$" to $2\frac{1}{2}$" and in lengths from $4\frac{1}{2}$" to 11". Write for samples and prices.

ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh 19, Pennsylvania. Sales offices in principal cities.

ALCOA REG. T. M. FIRST IN **ALUMINUM**

"The bigger the family—the better the service"

CONTINENTAL

C PAPER DIVISION

CAN COMPANY, INC.

FIBRE DRUMS The Container Co., Van Wert, Ohio

LIQUID-TIGHT FOOD CONTAINERS — Boothby Fibre Can Co. Roxbury, Mass.

PAPER CUPS AND FOOD CONTAINERS — Mono Containers Newark, N. J.

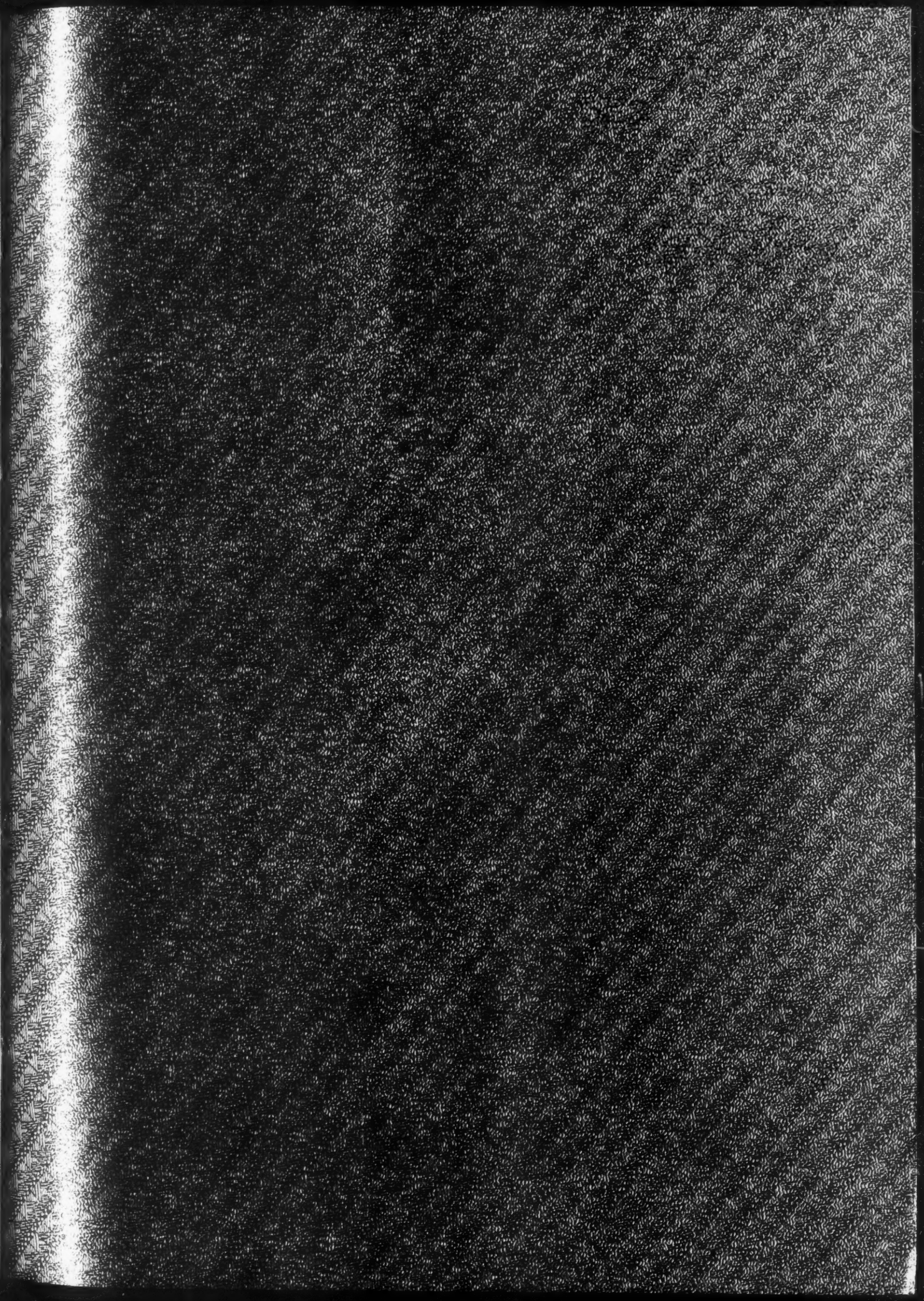
COMBINATION PAPER AND METAL CONTAINERS

Headquarters: 330 W. 42d St., New York 18, N. Y.

13 Plants—Sales offices in all principal cities

CONTINENTAL is a big family offering a wide variety of paper packages—liquid-tight paper containers and cups, fibre cans and drums . . . packages that safely carry your product everywhere (yes, and into every room in the house). The famous Continental Triple C trade mark stands for one company with one policy—to give you only the best in quality and service.

Tune in: "CONTINENTAL CELEBRITY CLUB" *every week over coast-to-coast CBS Network*



TINSEL-WEAVE

a new

"ATTRACTION PAPER"

Try It!

SAMPLE SHEETS
AVAILABLE IN
VARIOUS COLORS
—ALL WITH THE
SPARKLING FINISH

●

HAZEN PAPER COMPANY
HOLYOKE · MASSACHUSETTS

Paint comes out of this tube in buckets!

Yes, *buckets*. Here's the interesting story.

Almost since the time of Michelangelo, one of the biggest headaches of the paint business has been the problem of stocking the tremendous number of required shades of color. You can see what a headache this would be.

But what the makers of Murphy Paints* couldn't see was why this unhappy state of affairs should continue. Suppose, they asked, some enterprising paint manufacturer packaged the different tinting pigments in small one-shot containers. Wouldn't that make it possible for dealers to carry little more than basic white paint? And wouldn't that make practically any color available at any time—simply by adding the contents of these individual containers to the white paint?

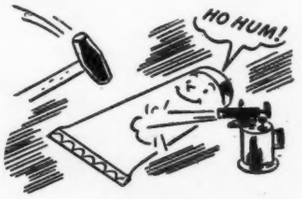
Murphy had the first *new* idea in paint merchandising in 50 years—*but* they were then faced with another problem: finding satisfactory containers for these pigments.

That was our cue. We of Sun Tube suggested our wonderfully convenient one-shot tubes, known as Unitainers. The Murphy people decided to give them a try—with results that made packaging history in the paint field.

MEANING WHAT TO YOU?

How does this story affect *your* business? If you have a packaging problem, Sun Tube may provide just as happy a solution for you. Not necessarily with a Unitainer (this particular Sun Tube may not be suitable), but with a tube designed precisely by our engineers to meet your individual needs.

You know, of course, that the collapsible tube has certain unique advantages. You know that it's virtually unbreakable. That its contents won't dry out in use. That it's germ-proof and light-proof.



But did you know that new developments make Sun Tubes ideal containers for products never before put in collapsible tubes? And that the ingenuity and resourcefulness of our packaging engineers can go to work on your problem—whenever you say the word?

Think of the advantages that perfect packaging will give your product in the dead-earnest race for distribution that's coming—then contact Sun Tube's main office, 181 Long Ave., Hillside, N. J., or our nearest representative.

**Interchemical Corporation, Murphy Paint Division.*

•

Sun Tube Corporation

HILLSIDE · NEW JERSEY

CHICAGO 1, ILL.
James L. Coffield, Jr.
360 No. Michigan Avenue

ST. LOUIS 1, MO.
M. P. Yates
Arcade Building

ST. PAUL 1, MINN.
Alexander Seymour
615 Pioneer Building

LOS ANGELES 27, CALIF.
R. G. F. Byington
1260 North Western Ave.

CINCINNATI 8, OHIO
Ralph H. Auch
3449 Custer Road

Hands demand

what eyes select...

A multitude of eager, searching, wanting hands are reaching out toward the tempting arrays of long awaited products on American counters.

The hands desire . . . the products . . . but the eyes select.

The eyes are hungry, hungry for beauty, for charm, for the original and unique. They're searching eyes but they're calculating too. They compare and judge with caution and care, for their expectations are as high as their urging desire is great. As their decision is made . . . the hands demand.

Now, we ask, will it be your product that those eager hands claim? Will it be your product that holds selecting eyes in a bond of beauty and charm and with a promise of desires fulfilled?

If your product has been appareled and packaged by WARNERCRAFT you may rest content . . . for a multitude of wanting hands . . . strong hands, fragile hands, hands beautiful, hands possessive, will demand the product that you present.

WARNERCRAFT

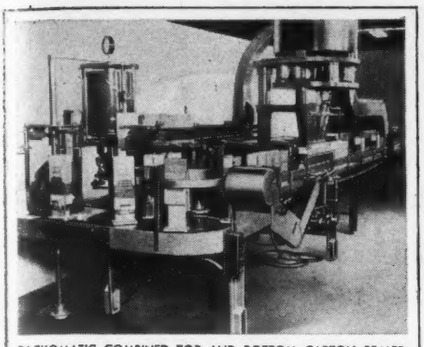
"THE FINEST WORD IN PACKAGING"

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.

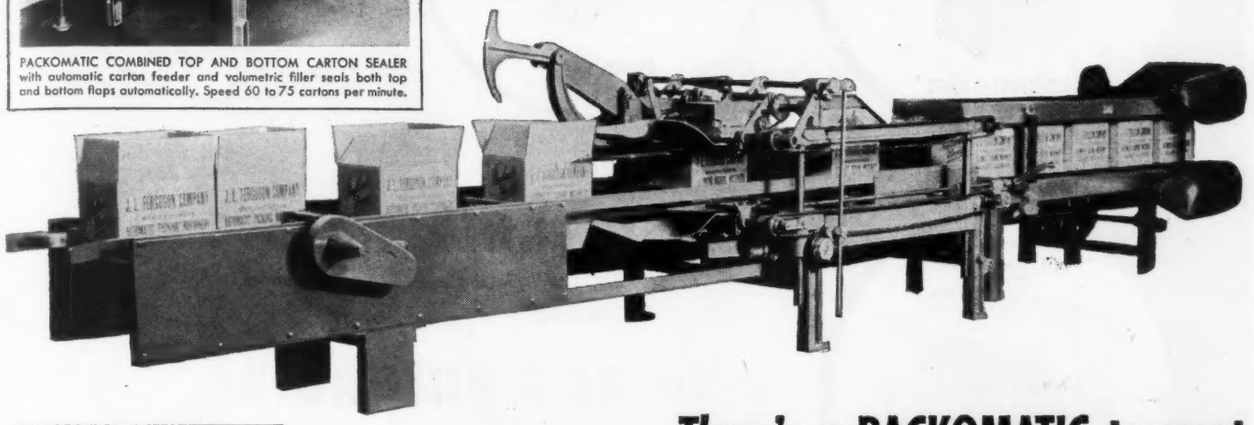
THE WARNER BROTHERS COMPANY

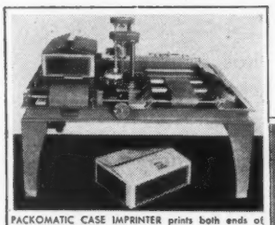
Main Office and Factory: 325 Lafayette Street, Bridgeport, Conn.
New York Sales Office: 200 Madison Avenue, New York, N. Y.

PACKAGE FILLING *to* CONTAINER SEALING



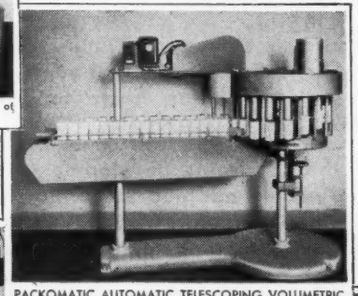
PACKOMATIC COMBINED TOP AND BOTTOM CARTON SEALER with automatic carton feeder and volumetric filler seals both top and bottom flaps automatically. Speed 60 to 75 cartons per minute.



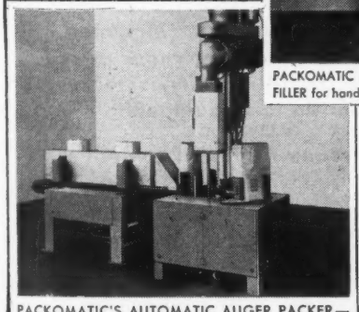


PACKOMATIC CASE IMPRINTER prints both ends of the case simultaneously, up to 20 per minute.

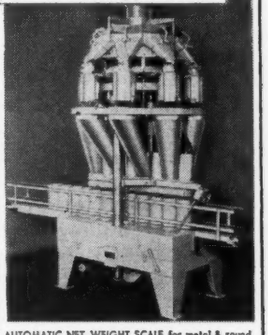
PACKOMATIC'S MODEL "D" CASE SEALER for paper shipping cartons. Seals tops and bottoms simultaneously—or tops, or bottoms only, if desired.



PACKOMATIC AUTOMATIC TELESCOPING VOLUMETRIC FILLER for handling semi- and free-flowing products.



PACKOMATIC'S AUTOMATIC AUGER PACKER—WEIGHER for semi- or non-free flowing products.



AUTOMATIC NET WEIGHT SCALE for metal & round paper cans, glass jars & rectangular containers.

There's a PACKOMATIC *to meet* YOUR *need!*

You'll find enthusiastic *performance reports* from the nation's foremost enterprises on PACKOMATIC packaging machines—from package forming and filling to shipping case sealing.

In fact, PACKOMATIC'S *new* Model "D" Shipping Case Sealer is a model of performance—50 to 3,000 cases per hour as required—squared, glued, sealed and ready for shipment or storage—quickly, efficiently, economically.

Then there's PACKOMATIC'S Combined Top and Bottom Carton Sealer with Automatic Feeder and Volumetric Filler. Seals both top and bottom flaps automatically, and operates at speeds up to 60 to 75 cartons per minute... Available in units to fill packages measured in ounces or pounds.

There's a wide range of PACKOMATIC packaging equipment...a wide scope of PACKOMATIC know-how.

Metropolitan Classified Telephone Directories give location of nearest PACKOMATIC office...or write Joliet.

Coupon below brings you colorful literature on PACKOMATIC Case Sealers, PACKOMATIC Carton filling and sealing machines, PACKOMATIC weighing equipment, etc. No obligation whatever for recommendations and suggestions.

PACKOMATIC

PACKAGING MACHINERY

J.L. FERGUSON CO. JOLIET, ILL.

Chicago • New York • Boston • Philadelphia • Baltimore • Cleveland
Denver • San Francisco • Los Angeles • Seattle • Portland • Tampa • Dallas

J. L. FERGUSON CO.
Joliet, Illinois

Please send complete data on ☐ Case Sealing ☐ Carton Filling and Sealing ☐ Package Weighing Equipment.

*Company*_____

*Address*_____

*City*_____ *State*_____

AUTOMATIC BAGS

INNER BAGS

MULTIWALL SHIPPING SACKS

WATERPROOF BOX LINERS

AUTOMATIC BOTTLE BAGS

CELLOPHANE & GLASSINE

EQUITABLE has *the Know-How* in BAG PACKAGING

EQUITABLE Paper Bag Company, Inc. has pioneered in solving every conceivable type of packaging problem for more than 25 years.

Our boundless resources and unlimited know-how came in mighty handy during the war years when trustworthy "substitutes" had to be found for scarcer packaging materials.

Many of the packaging developments, born of wartime necessity, will be adopted by civilian industry because their outstanding features offer a definite improvement over oldtime packaging methods. These improvements include bags made of sift-proof and moisture-vapor resistant papers, in new, rugged, fool-proof styles that insure product protection and merchandising appeal.

Because packaging with Paper Bags results in savings that are tremendous when compared with other methods, many farsighted firms will count on EQUITABLE Paper Bags to solve packaging problems in the days of "good old-fashioned competition" to come.

EQUITABLE Paper Bag Company, Inc. will continue to pioneer in the solution of protective packaging problems. Consult an EQUITABLE packaging expert for further details.

Equitable

PAPER BAG COMPANY INC

Mills at: Orange, Texas

47-00 THIRTY-FIRST PLACE • LONG ISLAND CITY, N. Y.

THIS "AD" SOLD 250,000 YDS.

OF 40" WIDTH

Plushtex

(PLAIN AND EMBOSSED)

We ran this ad in Modern Packaging (April 1945) and had sample swatches attached just as we do in this ad.

We were *FLABBERGASTED* by the results!

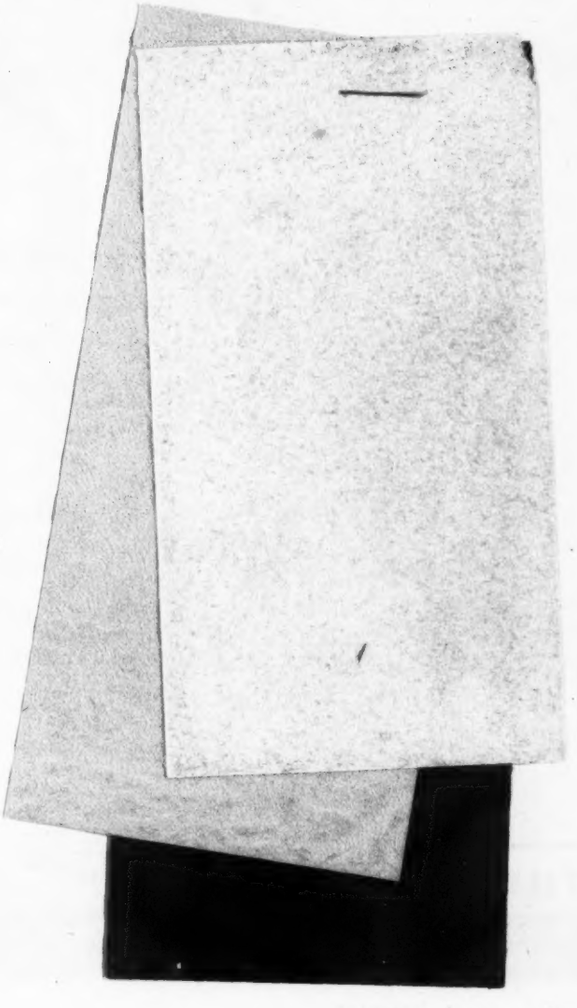
We received requests for samples of PLUSHTEX from practically everyone in the handmade box industry.

As a result we have today a large group of active accounts to whom we ship weekly requisitions of Plushtex.

Are *YOU* overlooking this material which has answered many problems so satisfactorily in these difficult times?

PLUSHTEX IS AVAILABLE FOR IMMEDIATE DELIVERY IN ALL COLORS YOU CAN CONCEIVABLY WANT.

Write for sample booklets of Plushtex



Kaplan

PRODUCTS & TEXTILES

460 Fourth Avenue, N. Y. C.

MU 4-0250

Chicago Branch

180 W. Randolph St., Chicago, Ill. ***State 4800***

DEPENDABLE PROTECTION...

How good is your product *when it reaches the ultimate consumer?* That's what counts and is the reason so many manufacturers of perishable food products use a Flav-O-Tainer package. It provides dependable protection against deterioration—and for an indefinite time.

The Royal Flav-O-Tainer package is a patented duplex bag, heat sealed on all seams; flavor and aroma *stay in* while moisture and air *are kept out*.

We are making Flav-O-Tainers lined with Pliofilm, Cellophane and Dioflex *now* (Dioflex is moisture-proof coated glassine laminated to itself).

Other Royalflex films such as Selloflex (Cellophane laminated to itself or to other material), Lumiflex (Aluminum foil laminated to other material), and Plioflex (Pliofilm laminated to itself or to other material) will be available soon.

THOMAS M. ROYAL & COMPANY • *Philadelphia 20*

BOSTON • CHICAGO • SAN FRANCISCO • BEAUMONT • ATLANTA • PITTSBURGH • NEW ORLEANS
DENVER • SEATTLE • NEW YORK • ST. LOUIS • DAYTON • DETROIT • SYRACUSE • BRYN MAWR

WOMEN VOTE 2 to 1 FOR COFFEE PACKED IN GLASS!

Coffee packed in glass wins an overwhelming consumer preference!

The emphatic 2 to 1 vote for this modern package was established in a nation-wide survey of food container preferences made by a noted public opinion analyst.*

Here are some of the reasons these homemakers gave for wanting their coffee glass-packed:

PROTECTION

Coffee packed in glass can be stored in original container. Easy-to-open . . . easy-to-reseal. Keeps out flavor-killing air.

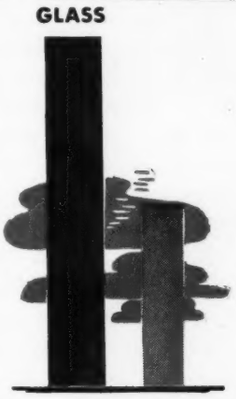
VISIBILITY

They see what they are buying, the grind they prefer. Glass tells homemaker when to buy more.

CONVENIENCE

Coffee keeps fresher in glass . . . flavor and aroma stay at delicious strength. Vacuum cap reseals between uses.

PREFERENCE



Of women expressing a preference, twice as many chose glass as next most popular container mentioned!

Visit our display at the 15th Packaging Exposition and Conference, Atlantic City, April 2-5!

A Duraglas coffee container has important Duraglas technique advantages—light weight, strength, compactness. No wonder that so many retailers say: "Glass-packed products require less *selling* time."

**Name supplied upon request.*

ESPECIALLY IN Duraglas CONTAINERS

OWENS-ILLINOIS GLASS COMPANY · TOLEDO 1, OHIO · *Branches in Principal Cities*

Jinx Falkenburg

Ruth Ownbey

The Beauties and the Beer...

with no apologies to fairy tale authors, Horatio Alger, Hollywood or even True Story, of which this is one.

Remember the drop of water that kept dropping? The snowball going downhill? The man who lifted a calf every day until . . . Well, one day in 1939 one of our vice presidents had a Large Idea. (*They have them almost every day.*) He told it to another vice president who said "Huh huh" and kept right on signing his mail . . . Boy, does genius take a beating before it gets a break!

The idea: pick a professional model, call her Miss Rheingold, use her picture on all the Rheingold displays of the season.

The Rheingold people kind of liked the idea, and they picked Jinx Falkenburg. Later they really *liked* the idea, wrapped all their advertising around the Falkenburg or vice versa. The *tres jolie* Jinx beamed at you from billboards, magazines, car cards, newspapers. Rheingold did all right. So did Miss F., afterwards tapped by Hollywood . . . Miss Rheingold became an institution. And growth of idea into institution is highlighted herewith:

1940—Rheingold let its dealers choose, from a brochure of Paul Hesse portraits in full color of twenty-five leading models. Beauty contests were held in bier stubes, debates occured in delicatessens and grocers. A prominent boys' school in Princeton, N.J., picked a Rheingold entry as Prom Queen. By ballot Miss Ruth Ownbey became Miss Rheingold 1941.

1941—Six models were selected, each viewed in Rheingold advertising for public vote. Miss Nancy Drake won by a nose and a few other features.

1942—The public, invited to submit candidates, sent in loads of best girl snaps and professional soft focus efforts, which were sifted down to four candidates by a group of artists and pictured in Rheingold advertising. Elected—Miss Sonia Gover.

1943—Six selected candidates, shown in Rheingold advertising, drew 656,327 votes (56,000 disqualified—demands for dates and phone numbers!) Score 178,489 for Miss Jane House.

1944—Six selected entries publicized. Special contest held for service men. With 739,591 ballots cast (40,000 disqualified—same reasons), 235,739 votes elected Miss Pat Boyd.

Few advertising ideas have lasted so long, attracted so much interest. And—oh yes, we almost forgot—it has sold beer . . . Rheingold's sales increase, in volume and in percentage, in 1942 and 1943, was more than double that of any other brewer in New York State!—War-time rationing of

Nancy Drake

Sonia Gover

Jane House

Pat Boyd

materials made it impossible to maintain quality and increase volume, but when restrictions are lifted again—oh boy!!!

DID we say that Miss Rheingold was our idea? . . . Well, we don't claim all the credit. Perfect strangers tell us the beer is good. Rheingold drivers never let cases or barrels bump on the sidewalk; drive slowly to save tires. Salesmen are courteous even when they can't fill orders. An advertising agency by the name of Young & Rubicam isn't exactly disinterested . . . But, it was our idea.

Some of our competitors consider this Rheingold project is just a hard way to get an order. Others say our business is all beer and skittles—when, as a matter of fact, there isn't a skittle account in the house, and we would be glad to hear from a good skittle manufacturer, if any.

GOOD displays sell goods. Better displays based on a good idea usually sell more goods. Good ideas executed in better lithography usually cost little more than just lithography—but pay a far better profit.

While we have more display ideas these days than we have cardboard, we like to hear from advertisers who can use good ideas as well as better displays! Give us a call and we'll come over.

Einson-Freeman Co., INC. • *Live & Learn Lithographers*

STARR & BORDEN AVENUES, LONG ISLAND CITY 1, NEW YORK

Everything that's NEW in

☆ PACKAGING
☆ PACKING
☆ SHIPPING

The 15th Packaging Exposition sponsored by the American Management Association will for the first time bring together in one place and at one time the host of wartime developments that mean powerful new sales appeal, improved protection, and greater handling economies for your products.

Plan now to attend this greatest exposition of machinery, equipment, materials, supplies and services ever held in the field of packaging, packing and shipping!

AMERICAN MANAGEMENT ASSOCIATION'S

☆ PACKAGING EXPOSITION

ATLANTIC CITY AUDITORIUM

April-2-3-4-5, 1946

Thousands of food products owe their shelf-life freshness and taste values to protective packaging papers by RHINELANDER

CANDY OWES ITS TASTE-LIFE TO PROTECTIVE PACKAGING

Uncle Sam's "sweet tooth" has created one of the Nation's largest industries—the Candy Business. Available in wide variety, purse-satisfying to rich and poor alike, countless confections add greatly in sweetening the American way of life. A miracle of mass production and distribution, U. S. candy is also world famous for its enduring high quality —a joint triumph of the confectioners' skill *plus* package protection.

Top quality condition, essential to consumers' taste and eye even after extended storage and shelf-life, is a "must" that places heavy responsibility upon protective integuments. Only functional coverings, the end product of unusual skills and specialized equipment, can serve appropriately. Such are Rhinelander Protective Papers . . . keyed to package machinery operations, providing the minimum in weight and bulk while assuring the maximum in extended protection after economical conversion to wrappings, bags and liners. If your product, edible or otherwise, requires *flexible package protection*, Rhinelander's many years of "know how" is yours to command.

RHINELANDER *Protective Packaging* PAPERS

Moisture/Vapor-Proof Coated Glassines
Wet Strength Glassines
Wet Strength Greaseproof
Heat Sealing Coated Glassines

Lard and Shortening Liners
Packing Industry Wrappings
Genuine Greaseproof
Specialty Bag Papers

Confectionery Papers
Cereal Wrapping Papers
Coffee Bag Papers
Cracker Box Liners

Laminated Greaseproof Papers
Wax Laminated Glassine
Greaseproof Innerwraps
Opaque Label & Bag Glassine

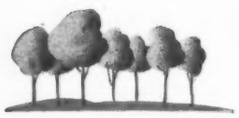
RHINELANDER PAPER COMPANY • MILLS AT RHINELANDER, WISCONSIN, U.S.A.

if you now wrap your product in paper

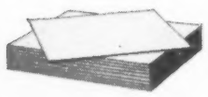
A bag may do your job better at lower cost

Yes, if you now wrap your product in paper, you may be wasting valuable time, material and labor in your packaging department that could be saved if you used *special paper bags*. The Bemis Paper Bag Specialty Division is giving manufacturers important savings by developing bags and methods of packing a wide range of products formerly hand-wrapped in paper.

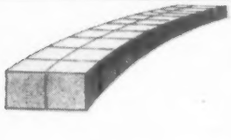
TREES • CANS • FIREBRICK AND PERHAPS YOUR PRODUCT



A waterproof paper bag saves time, materials and labor in wrapping trees. Trees ready for shipment are usually wrapped in paper. Now they may be slipped into special paper bags supplied by Bemis. Time and labor is saved, and the bag makes a better looking package.



4′ x 12′ sheets of wallboard are usually wrapped in heavy paper. A large paper bag has been designed to hold six sheets. This gives savings in labor and materials; frees valuable floor space in the packing department.



100-pound cubes of firebrick clay are unwieldy and hard to wrap in paper. A special paper bag speeds up handling and provides a more efficient protective covering.

SUBMIT YOUR PACKAGING PROBLEMS TO BEMIS

No matter what type or size of product you make, if you now hand-wrap in paper you may find new packaging economy in a *special paper bag*. Call Bemis today. There is no obligation.

BEMIS BRO. BAG CO.

BEMIS BRO BAG COMPANY

PAPER BAG SPECIALITY DIVISION

1058 S. Vandeventer
St. Louis, Missouri

Glass
THE PERFECT SALESMAN

HE never asks for overtime pay and stays on the job constantly. He never strikes nor complains. He's inherently honest. He has an open, friendly face and inspires instantaneous confidence. He speaks the most eloquent sales language known —"See for yourself," he says. "See the attractive contents of this package. See the uniformity, the texture, the size, the freshness and the true color of the product." He speaks this language so convincingly and unerringly that he creates many extra impulse sales.

This perfect salesman is the sparkling, clear Anchorglass Container. It displays your product with all its colorful eye and appetite appeal. Since it imparts no foreign tastes or flavors, it delivers your choice foods to the consumer with all these qualities intact. Then too, it is easy and safe to open and can be tightly resealed to protect unused portions.

In short, the Anchorglass Container is the perfect salesman.

Anchor
CONTAINERS and CAPS

Hear it on ANCHOR HOCKING'S HOBBY LOBBY CBS NETWORK . . . THURS. EVE.

PRODUCTS OF
ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO

The packaging that attracts . .

Good looks and plenty of eye-appeal is taken for granted by ACE Carton clients. And now for the competitive days ahead, they'll continue to depend on ACE to come up with creations that command shelf space—provide rapid turnover. Consult ACE design engineers about your packaging problems—cash-in on this wealth of craftsmanship and "know-how" planning.

ACE CARTON CORPORATION

5800 West 51st Street, Chicago 38, Illinois

FOLDING PAPER CARTONS · FOLDING DISPLAYS · DISPLAY CONTAINERS

ACE CARTON CORP. ACE CHICAGO Creators

Molten iron from the blast furnaces flowing through runners to the Bessemer converters.

STEEL from this river of fire— PLATE THAT PROTECTS!

Blasted into pure iron by the intense heat of huge furnaces, the molten raw material of sturdy *steel cans* flows on its way to the Bessemer converters.

Step by step throughout the steel-making process, the plate for steel packaging is constantly being treated to insure your products perfect quality protection. Cans made of steel fill the bill for packers who demand all-round protection against package damage and product spoilage. For products packed in light weight but durable steel are armored against danger of light-, air- and moisture-deterioration . . . can be economically and safely shipped to retail outlets.

Your customers know that products retain all their quality when packed in tamperproof steel cans. That's one reason why merchandise packed in steel is prominently displayed by dealers and bought with confidence by consumers who want the best.

Remember, when you pack your products in shatterproof steel containers you gain all the protective qualities of heat-tempered steel in a package with proven sales appeal.

Can Manufacturers Institute, Inc., New York

Major Reasons for Packing Products in Cans

1. Cans won't break, split, crush or tear.
2. Lower filling, shipping and handling costs.
3. Can be colorfully lithographed for effective display and quick brand identification.
4. Tamperproof cans eliminate danger of substitution.
5. Protect products against harmful effects of light, air and moisture.
6. ***Nationally Advertised*** — this month alone more than 32,000,000 full-page, full-color ads in leading national publications are bringing home to shoppers the many advantages of buying merchandise in cans.

NO OTHER CONTAINER PROTECTS LIKE THE CAN

no rust no corrosion in this container

The illustration shows Mr. Otto Mueller, packaging foreman, inspecting one of his Ampro Sound-On-Film Projectors sealed tightly within a representative moisture vapor-proof barrier, ready to be placed in a shipping carton. Packed within the barrier, with the Projector, are three small bags of Jay Cee Silica Gel . . . which adsorb "in-the-package" moisture and prevent damage from rust or corrosion.

(Cellophane packaging was used in this illustration as a substitute for the actual wrapping).

SHIPPERS! Your product can be seriously damaged by rust, corrosion, or mildew . . . because of "in-the-package" moisture. Avoid such damage. Include Jay Cee Silica Gel, the ideal drying agent, in the packages with your product.

Your container may be sealed "tight as a drum" against outside moisture. Yet, the vapor within can cause untold harm. Particularly, a slight drop in temperature can release dangerous moisture.

Jay Cee Silica Gel keeps the air in the package dry . . . adsorbs the vapor . . . prevents moisture damage. Jay Cee Silica Gel is a crystalline substance resembling rock salt in general appearance . . . chemically inert. Has amazing power to take up moisture without its particles changing in size or shape. Packed in 1, 2, 4, 8 oz. and 1 and 5 lb. bags. Used widely with shipments of metal parts, precision instruments, electronic equipment, dehydrated foods, fabrics, and chemicals.

JAY CEE
SILICA GEL

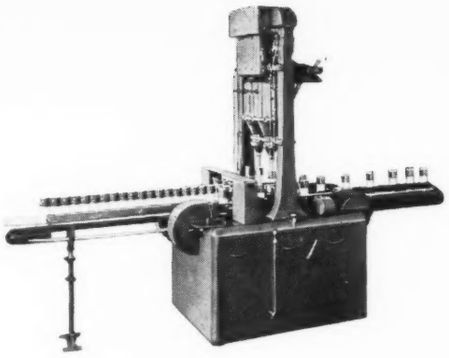
JOLIET CHEMICALS, LTD.
112 INDUSTRY AVENUE
JOLIET, ILLINOIS

US

Manufactures Machines For

NET WEIGHING
GROSS WEIGHING
PACKING
PACKAGING, FORMING & FILLING
CARTONING
CARTON SEALING
CARTON LINING
CARTON WRAPPING
PAPER BOX FORMING
PAPER BOX COLLAPSING

. . . they chose US



The NEW Model JK
Fully Automatic Volume Filler
Weigher or Packer

The packer of the spices illustrated above economically solved his filling problem with ***U S.*** Using the new fully automatic, twin station Model JK Packer, you too can achieve dollar saving results. And operators will praise its clean, efficient operation and its many new features.

The Model JK fills with closest accuracy up to 60 containers per minute on all kinds of powdered and granular materials. Normally the operation of this automatic machine is to fill by packing under controlled pressure; for those materials that require settling rather than packing, the new vibrating filling platform is furnished.

An efficient dust collector hood at the filling stations collects any escaping particles, keeps the machine and surrounding air clean and free of annoying dustiness. This, combined with the new shut-off gates which eliminate the drip at the augers, makes the filling operation absolutely clean.

Combine the foregoing with other new features designed to provide efficiency in performance and convenience for the operator and you have a machine that is the last word in modern high-speed powder filling.

You can see the latest Model JK operating in our Booth #205 at the Packaging Exposition in Atlantic City, April 2 - 5.

Send U.S. details on your packaging problems—we have the machines and engineering background to solve them.

US

Automatic Box Machinery Co. Inc.

Owning and Operating

NATIONAL PACKAGING MACHINERY CO. • CARTONING MACHINERY CORP.

18 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: NEW YORK CLEVELAND CHICAGO
LOS ANGELES (KRUGH EQUIPMENT & SUPPLY CO.)

"step out WITH front"

More than ever before the PACKAGE has become a vital sales weapon — a powerful factor in attracting consumer attention to your product.

Your MILPRINT PACKAGE is designed for the consumer — the person who buys your product . . . and behind this package is the combined knowledge of the finest experts in the nation . . . Laboratory technicians whose constant research insures safe, protective materials — Industry experts who KNOW your product and how to sell it — Merchandising and survey men who fit the product to the market and make it COMPETITIVE — Creative artists with a vast experience in packaging design and color dynamics — plus the final craftsmanship that only 50 years of pioneering in packaging can impart to any package.

Why not avail yourself of this complete packaging service — and watch the consumer — as well as your sales — STEP OUT FRONT — with a new and better package.

8 POINT *packaging service*

Market Survey	Research
Industry Experts	Illustrative and Creative Art
Laboratory Tests	Nation Wide Service
Package Engineers	Technical Engineer

PACKAGES by milprint

MILPRINT Inc.
packaging converters • lithographers • printers

CREATIVE PACKAGING FOR ALL INDUSTRIES

Plants at Milwaukee, Philadelphia, Los Angeles, Tucson and San Francisco

●

Printed Cellophane, Pliofilm, Glassine, Aluminium Foil, Cellulose Acetate, Vinyl, Lacquer Coated and Laminated Papers in all forms, including Sheet Wraps, Rolls, Pouches, or Speciality Bags, Revelation Bread Wraps, Speciality Folding and Window Cartons, Counter Displays, Simplex Pie and Cake Units.

●

Sales Offices at • New York • Chicago • Boston • San Francisco • Philadelphia Grand Rapids • Los Angeles • Cleveland • Dallas • Minneapolis • Cincinnati Atlanta • Pittsburgh • St. Louis • Indianapolis • Kansas City • Memphis

EVER WHITTLE WITH A THWYTEL ?

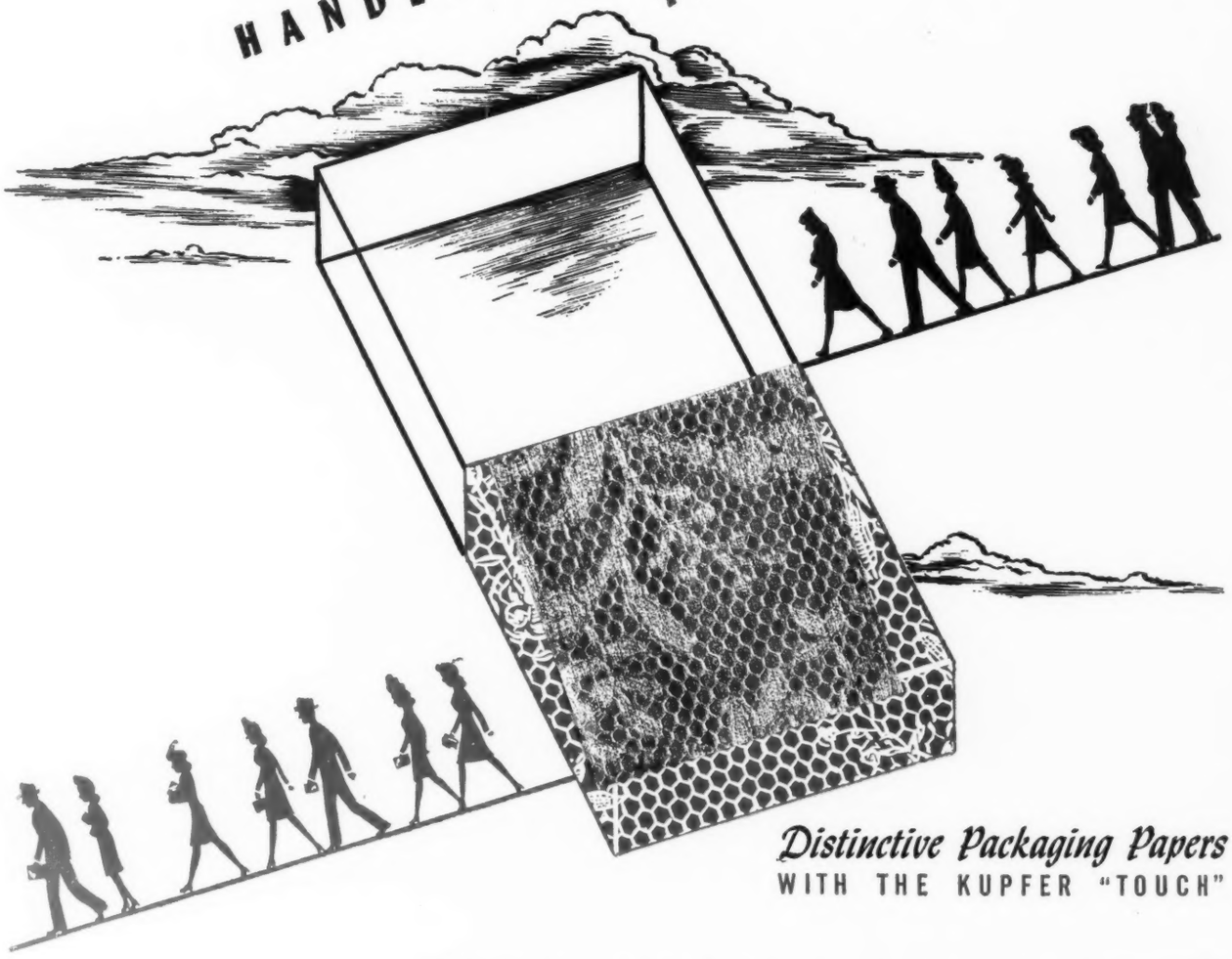
As early as the 14th century the town of Sheffield in England was becoming famous for the quality of its steel. Chaucer, in his writings, made mention of a rude knife typical of the period called a thwytel, which was made from Sheffield bar steel and used for everything from cutting food to performing heavier cutting tasks about the home. This general utility knife played an important part in the daily routine of these early people, and proud indeed was the family whose thwytels were made of Sheffield steel. In the six hundred years which have followed, the inventive genius and metallurgical skill of these early Sheffield craftsmen have been passed down from generation to generation, always keeping Sheffield a standard of quality.

The name Carr-Lowrey has comparable significance for buyers who know and appreciate quality in commercial glass containers. More than 56 years of devotion to the highest standards in glass manufacture have won for use the confidence and acceptance of a discriminating clientele.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD.
New York Office: 500 FIFTH AVE.
Chicago Office: 1502 MERCHANDISE MART

HANDLING A PRODUCT IS HALF THE SALE!



Distinctive Packaging Papers
WITH THE KUPFER "TOUCH"

All KUPFER embossed and surface coated wrapping papers are created by KUPFER sales-psychological designers in provocative patterns to incite the customer to closer observation and handling. Dainty lace patterns on various stocks such as this tipped-on luxurious Valenciennes Lace are ideal for candy and cosmetics, accessories and box wraps. Other raised KUPFER papers — Leather Grains and Floral Patterns, instantly increase the point-of-sale value of your product.

WRITE FOR SAMPLES TODAY

KUPFER BROS. CO.
Manufacturers of Surface Coated Papers Established 1845
4 ASTOR PLACE • NEW YORK 3, N. Y.

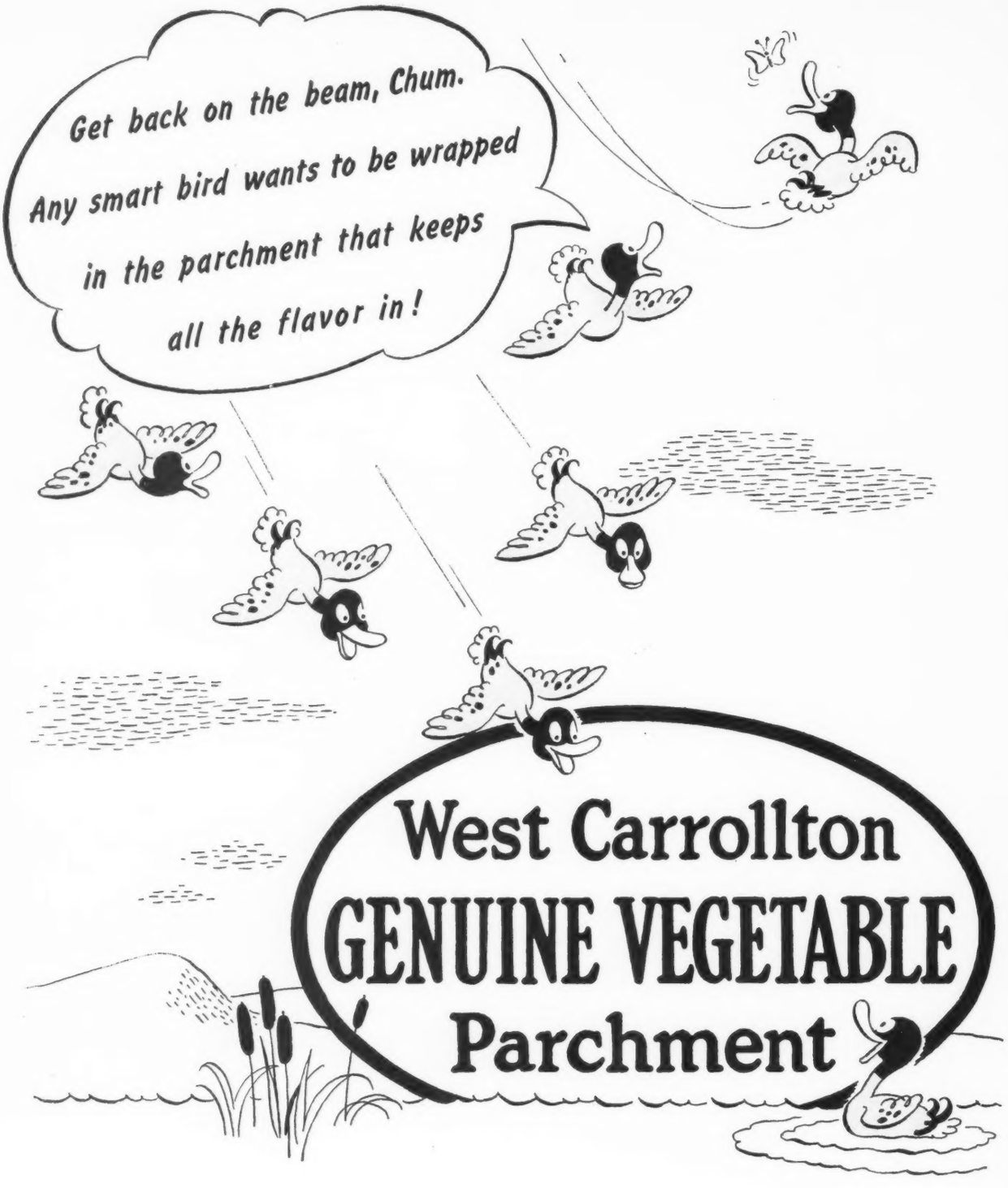
BOSTON
RICHMOND
SEATTLE
PHILADELPHIA

KUPFER BROS. PAPER CO.
145 West Hubbard Street
Chicago 10, Illinois

S. D. HOUGHTELIN PAPER CO.
257 Natoma Street
San Francisco, California

Southwest Representatives:
MODERN PACKAGINGS
Irwin-Keasler Bldg., Dallas 1, Texas

FRYE PAPER COMPANY
1510 Santa Fe Avenue
Los Angeles 21, California



Here's the parchment that's odorless, insoluble, grease-resistant — unsurpassed for wrapping butter, shortening, meats, poultry, fish and all moist food products. Complete printing service in our own plant. Printed in one or more attractive colors with inks specially made for food wrappers.

WEST CARROLLTON PARCHMENT CO.

WEST CARROLLTON, OHIO

Creative
Goubaud
Marinella
See the exhibit of glass and plastic packages decorated in our plant — in Booth No. 15, Packaging Show — Atlantic City, April 2-5.
Creative
PRINTMAKERS INC.
200 VARICK STREET, NEW YORK 14, N. Y. • WALKER 5-6300
SURFACE DECORATORS FOR THE PACKAGING FIELD
IN CANADA: 2424 Yonge Street, Toronto, Ontario

Hermetically sealing effervescent Alka-Seltzer—a phenomenally thirsty, eager product—is just another example of practical Dobeckmun service, in this case for Miles Laboratories, Inc.

To tame such restless products, Dobeckmun created "Metalam". This flexible, durable, heat-sealing lamination of aluminum foil and transparent acetate film provides a moisture-vapor-proof combination adapted to automatic machine packaging. Multi-color printing on the film adds to attractiveness and sales appeal. Countless tons of effervescent powders, soluble coffee and other dehydrated products have been delivered in perfect safety, in "Metalam" unit packages both to the armed forces and to civilians in foreign countries.

Other outstanding Dobeckmun packages include plain or printed cellophane bags, "Tritect" laminated cellophane bags, and machine-applied printed film overwraps.

When packaging poses problems, ask Dobeckmun for samples and suggestions, without obligation. *The Dobeckmun Company, Cleveland 1, Ohio. Branches in Boston, Chicago, Cincinnati, Los Angeles, New York, Philadelphia, San Francisco and Seattle. Representatives everywhere.*

DOBECKMUN

Self-selling packages in processed films and foils

Ivers-Lee Patents Nos. 2121988, 2230849, 2125321

Swords into Ploughshares + Increased Demand = Patience, Please!

Yes, all kinds of packages and containers are short . . .

. . . beer cans, coffee cans, paint cans, talcum cans. Just name the line of industry that wants packages and it's the same old story, "We can't get enough."

For the time being, therefore, container users must share the available supply of containers.

It is our responsibility to ration our containers among all our customers on an equitable basis. You understand that this is in the best interests of everyone.

Now, why are containers short?

For one thing, the war emphasized again that cans are the ideal container.

And today's demands are tremendous. For example, the estimated requirements for paint cans for 1946 have doubled since 1941.

That was an all-time peak year. And yet, we are making more paint cans today than we did then.

Such increased demand prevails in nearly every industry that uses metal or metal-and-fibre containers.

Then, too, in changing back to cans from war packages, many industries must build up an inventory among distributors and dealers . . . another reason for an abnormal demand for containers at this time.

So, as we beat our swords into ploughshares and at the same time turn out more containers than we did in the peak year of 1941 . . .

. . . we *still* can't supply you fast enough.

Please have patience with us.

American Can Company (CANCO) New York • Chicago • San Francisco

NO OTHER CONTAINER PROTECTS LIKE THE CAN

NOT A LESSON IN TRANSPORTATION BUT ONE IN *Endurance*

Sheffalloy
TRADE MARK REGISTERED
SHEFFIELD PROCESS
TUBES

The Camel and the Oxen have been recognized for years for their tremendous qualities of *endurance.* Their ability to stand up under severe hardships is inbuilt, generation after generation. Similarly, we "build in" that same quality of endurance and ability to stand up under severe strain in SHEFFALLOY *Sheffield Process Tubes.* The science of toughening tube metal has been far advanced by our research staff who developed our exclusive Sheffield Process of mixing, melting and tempering the metal. Although SHEFFALLOY remains soft and pliable, its extra toughness and strength gives an extra margin of strength and safety for collapsible tubed products. If you haven't tested New England Tube service . . call or write our nearest office, *today!*

NEW ENGLAND COLLAPSIBLE TUBE CO.

3132 S. CANAL STREET, CHICAGO 16 • NEW LONDON, CONN. • W. K. SHEFFIELD, V. P., 500 FIFTH AVENUE, NEW YORK 18
THE WILCO COMPANY, 6800 McKINLEY AVE., LOS ANGELES 1

Electrical Insulating Material
Method I-A and II Materials
Functional Laminated and Coated Materials
Protective Shipping Case Liners
Folding Boxes and Trays
Frozen Food Bags and Wraps
Stock and Custom Printed Cellophane Bags, Rolls and Sheets
Flexible Liquid Containers
Dehydrated Food Bags and Pouches

Today it's

WESTERN

For distinctive, modern packages

For unusual low pressure

laminated plastics

PACKAGING AND PLASTICS

WESTERN PRODUCTS INCORPORATED

Creative Engineering in Packaging and Plastics

NEWARK, OHIO

CONVERTERS OF LAMINATED AND COATED METAL FOILS, TRANSPARENT FILMS, FABRICS, AND PAPERS

Visit our Booths 427–8, Packaging Exposition, Atlantic City, April 2–5

to protect shrimps

...and cigars

It's SYLVANIA for Cellophane!

WHATEVER THE PRODUCT, versatile Sylvania Cellophane is on the job . . . guarding against loss of flavor, freshness and aroma. For this unique protective wrap combines shimmering beauty with important functional qualities. Not only does it keep moisture *out* or *in*, but it also protects against air, dust and grease.

Today's Sylvania Cellophane offers better protection than ever before. In the future you can expect to see it on an even wider variety of products.

...and chocolate bars!

SYLVANIA CELLOPHANE

Made only by SYLVANIA INDUSTRIAL Corporation

Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 122 E. 42nd St., New York 17, N.Y. ★ *Plant and Principal Office:* Fredericksburg, Va.

SYLVANIA CELLOPHANE

•Registered Trade Mark

are you packaging a DREAM?

KEEPING milady beautiful is one of America's biggest businesses . . . and it takes a billion and a half boxes to supply her with these needs.* The soap and cosmetic industries, expecting a ten percent increased volume, have voted the set-up paper box their favorite container. For distinctive, economical styling it is the set-up paper box every time — it has strength, versatility, and greater sales values, too. If you're packaging a dream . . . and need added protection . . . investigate the set-up paper box.

* Consult your nearest paper box manufacturer. Ask him for the latest packaging survey (Dept. 28), "Soap and Cosmetics Industry".

NATIONAL PAPER BOX MANUFACTURERS *Association*

AND COOPERATING SUPPLIERS

Liberty Trust Building • Philadelphia 7, Penn.

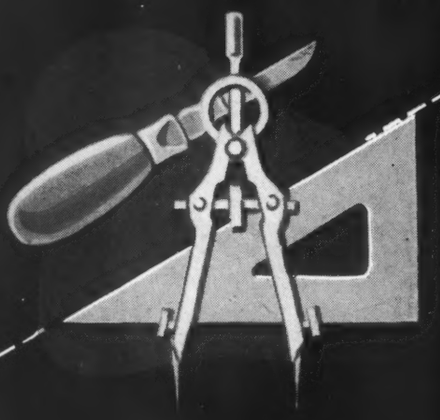
FOR INFORMATION OR SERVICE • CONSULT YOUR NEAREST SET-UP BOX MANUFACTURER

At Your Command

MORRIS

EXPERIENCE AND PRODUCTION FACILITIES

Our packaging designers and craftsmen can develop and produce for you modern packaging of greatly improved utility and sales appeal; meeting the protection needs of your product, considering carefully your merchandising requirements and solving all phases of your individual packaging problems.



CREATORS · DESIGNERS · MANUFACTURERS OF

- BEVERAGE CARRIERS
- FRAME VUE DISPLAY BOXES
- FOLDING CARTONS
- CRACKER CADDIES
- GARMENT BOXES
- MILLINERY BOXES
- PAPER ICE CREAM CANS
- COUNTER DISPLAYS
- MERCHANDISING AIDS

MORRIS PAPER MILLS

135 SOUTH LASALLE STREET · CHICAGO 3, ILLINOIS

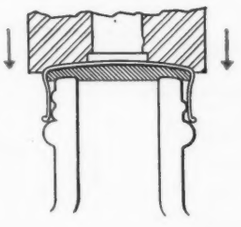
Look who's back to Aluminum Seals

Add Crosse & Blackwell to the list of former users who have returned to Alseco *Rolled-On* Seals now that aluminum is available for civilian use again. Alseco R-O's are just what C&B needed for their fine products. No chance for contamination from a rust-proof aluminum seal.

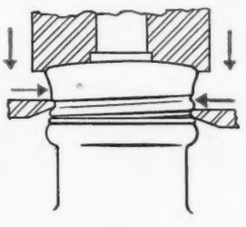
Alseco's unique method of application tailors each seal to the bottle as it is applied. More protection for the contents . . . less chance for evaporation. Write for details on the exclusive advantages aluminum seals can give you. You'll quickly see why leading food packers are again using Alseco R-O's.

THIS WORKS BEST WITH ALUMINUM

1. Plain-skirted Alseco Seal is seated squarely on container. Under stationary top pressure, container lip is embedded in cap liner evenly all around, effecting the seal.



2. While the seal is thus held under pressure, threads are Rolled-On to conform exactly with threads on container. Each seal is tailormade, fits perfectly, seals tighter.



ALSECO

TAILOR-MADE OF ALCOA ALUMINUM

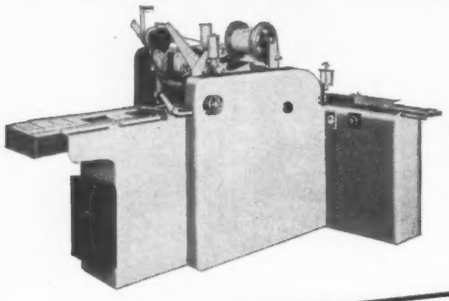
SEALS AND SEALING MACHINES

ALUMINUM SEAL COMPANY · 1345 THIRD AVENUE · NEW KENSINGTON, PENNSYLVANIA

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA — SALES OFFICES IN LEADING CITIES

A message for PRODUCTION MANAGERS

SPEED and PRECISION in CELLO-WRAPS



means **Scandia** EQUIPMENT

with or without TEAR STRIP

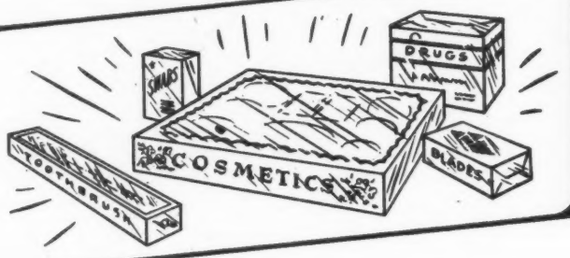
UP TO **350** per min.

CIGARETTE & TOBACCO PACKS

There's a Scandia unit available for high speed production, with electric eye for registry, with attachments for applying revenue stamps and tear-tape.

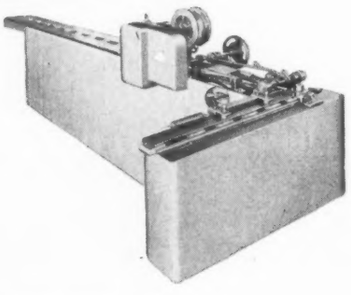
KEEPING MOISTURE OUT

Scandia GUARDS the quality of merchandise which must be shielded against dampness as well as protected from inquisitive fingers.



KEEPING MOISTURE IN

Here again, SCANDIA assures protection to commodities that must be shielded against loss of moisture; Scandia tite-wraps keep quality from deteriorating.



PROTECTION AGAINST RUST

for metals, machine parts, hardware.

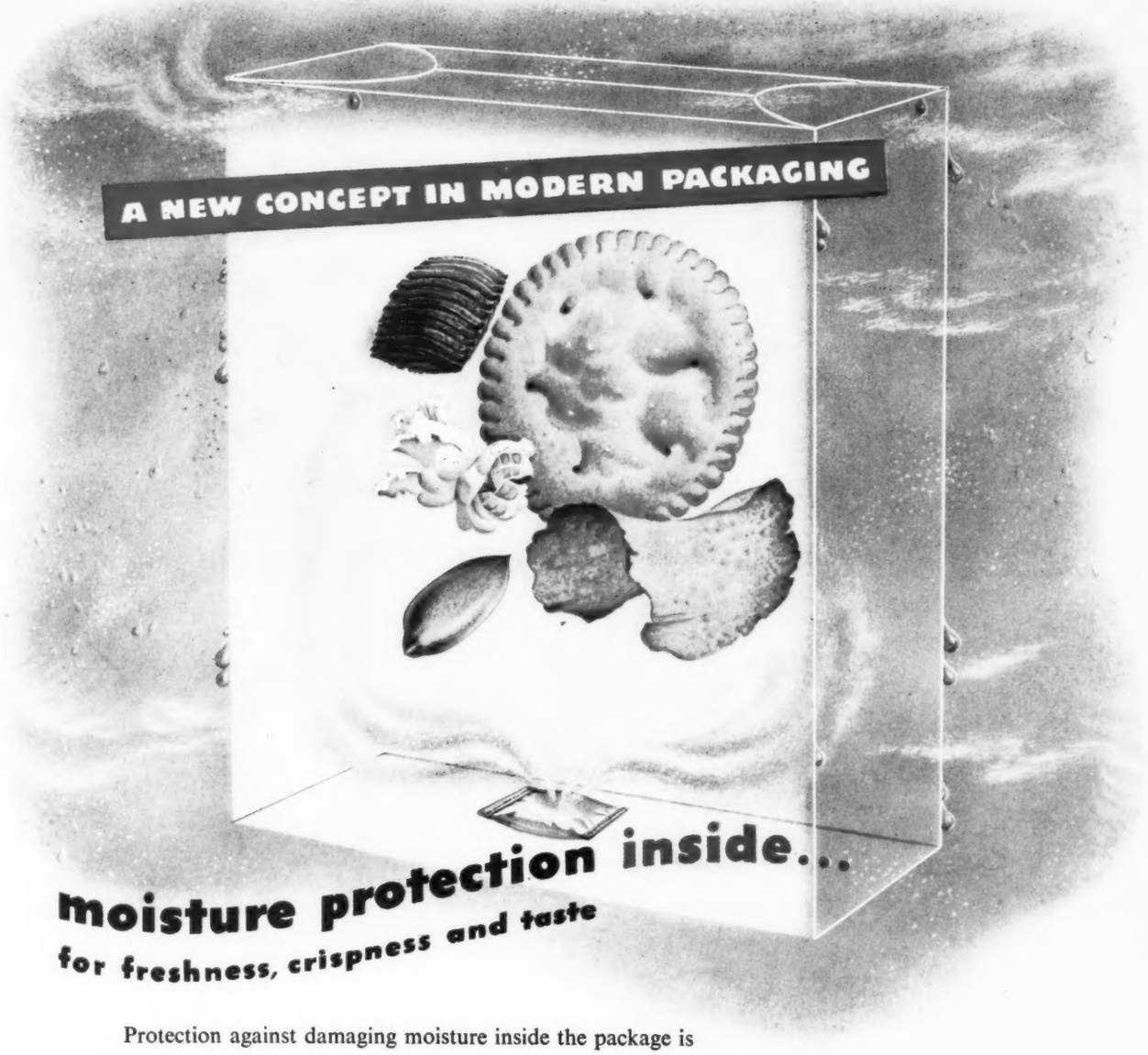
The quiet, smooth operation of Scandia units keeps cost down in scores of manufacturing plants . . . Scandia means packaging economy!

Write for Details

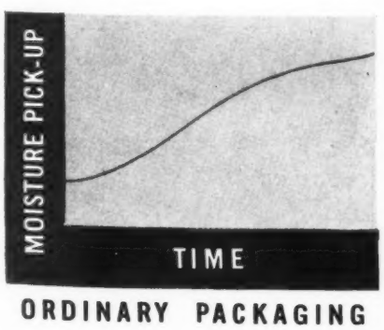
* Manufactured under Bronander Patents.

Scandia MANUFACTURING CO.

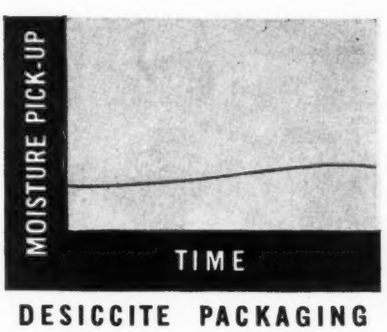
NORTH ARLINGTON NEW JERSEY



Protection against damaging moisture inside the package is now economically practical with Desiccite,* the highly efficient, low-cost drying agent produced by one of the world's largest manufacturers of desiccants. Any commodity from foods to metal products can be moisture-protected at such low cost that manufacturers with packaging problems are turning to Desiccite for "inside packaging protection." Filtrol* engineers will gladly consult with you on your packaging problems. Write today for full information.



ORDINARY PACKAGING



DESICCITE PACKAGING

Dry Pack with DESICCITE

a Filtrol Product

FILTROL CORPORATION

General Offices: 634 S. Spring Street, Los Angeles 14, Calif.
Plants: Vernon, California, and Jackson, Mississippi

★ *Filtrol and Desiccite Reg. U. S. Pat. Off.*

STAINLESS METAL FOILS

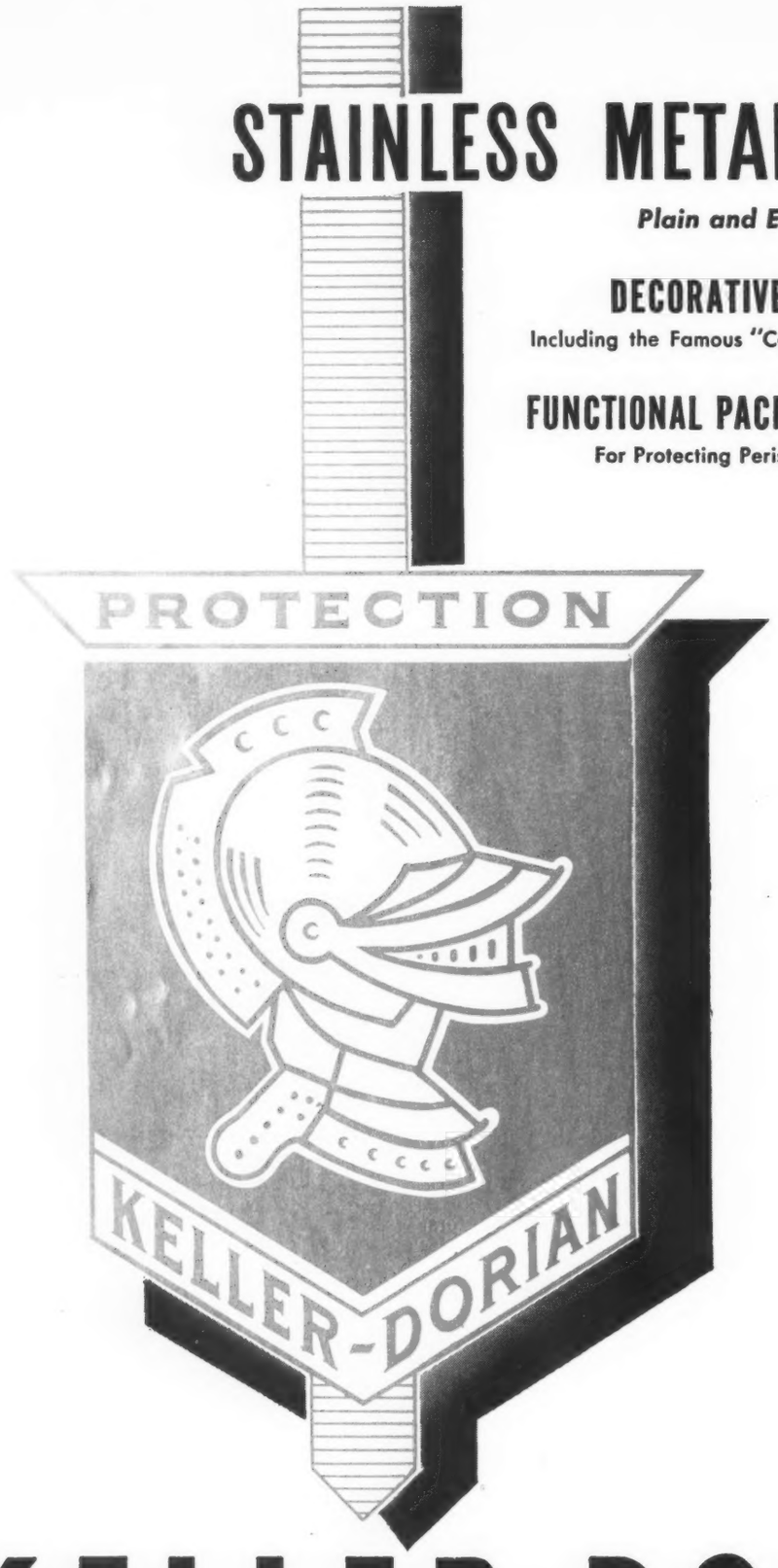
Plain and Embossed

DECORATIVE PAPERS

Including the Famous "Continental Gloss" Line

FUNCTIONAL PACKAGING PAPERS

For Protecting Perishable Products



KELLER-DORIAN

CORPORATION

Distinctive Paper Productions • Functional Packaging Papers

EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

PAX TAPE QUALITY IS BETTER FOR BETTER PACKAGING

Packaging designers are partial to PAX TAPE because of its uniform dependability in the solution of many modern packaging problems.

PAX TAPE seals instantly without moistening. It sticks stronger, lasts longer.

Use PAX TAPE for permanent anchorage on "hard-to-seal" packages and containers; and for many types of protective wrapping. PAX TAPE smartens up the package while doing an effective utility job.

TRY PAX TAPE

The BETTER Tape

Transparent and in Colors

THE COFAX CORPORATION • Lynbrook, N. Y.

3 IN 1

ELECTRONIC PRECISION CONTROL OF REGISTRATION

. . . for all packaging and other machinery requiring precise accuracy in cutting or any other repetitious operation on material fed in continuous sheet or strip.

A small, rugged, compact, one-piece, triple scanner easy to install, which will regulate cutting of printed paper, cloth, cardboard, cellophane, tinfoil and similar materials of any color, or combination of colors with precise relation to position of printed matter.

A turn of a switch gives:

(1) Transmitted light for use with transparent material.

(2) Reflected light for use with opaque material.

(3) Both transmitted and reflected lights for use with translucent material.

Color variety is no problem. A set of internal color filters in the Scanner eliminates the need for a synchronous selector for use where registration mark is a color contrast in the printed design.

Amplifier can be installed anywhere within 25 feet cable length from Scanner. Includes heavy duty relay with maximum surge rating of 30 amps. and a steady current of 10 amps., 110 v. 60 cycle. Can also be supplied for 220 V. and 25 cycles to order.

Write for Catalog #8231

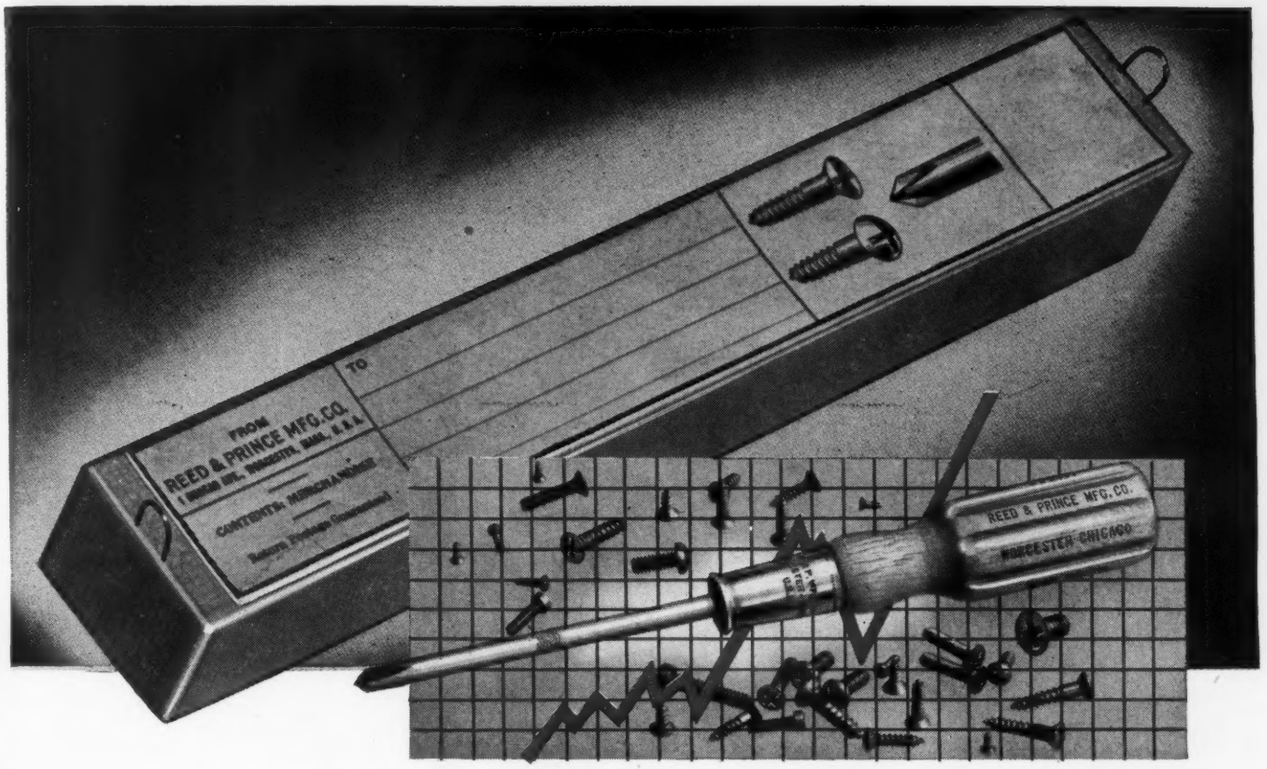
SCANNER MODEL No. 8232
Approximate size: 7½" x 4" x 3¾"

AMPLIFIER MODEL No. 8233
Approximate size: 10¾" x 8¼" x 5¼"

UNITED CINEPHONE CORPORATION

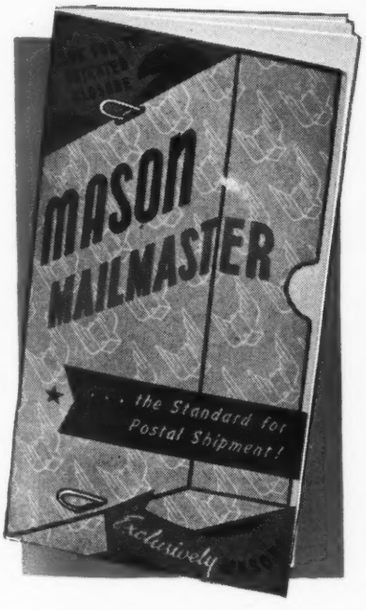
Designers, Engineers and Manufacturers of Electronic Products

10 NEW LITCHFIELD STREET TORRINGTON, CONNECTICUT



here's an example of . . .

SALES DRIVE!

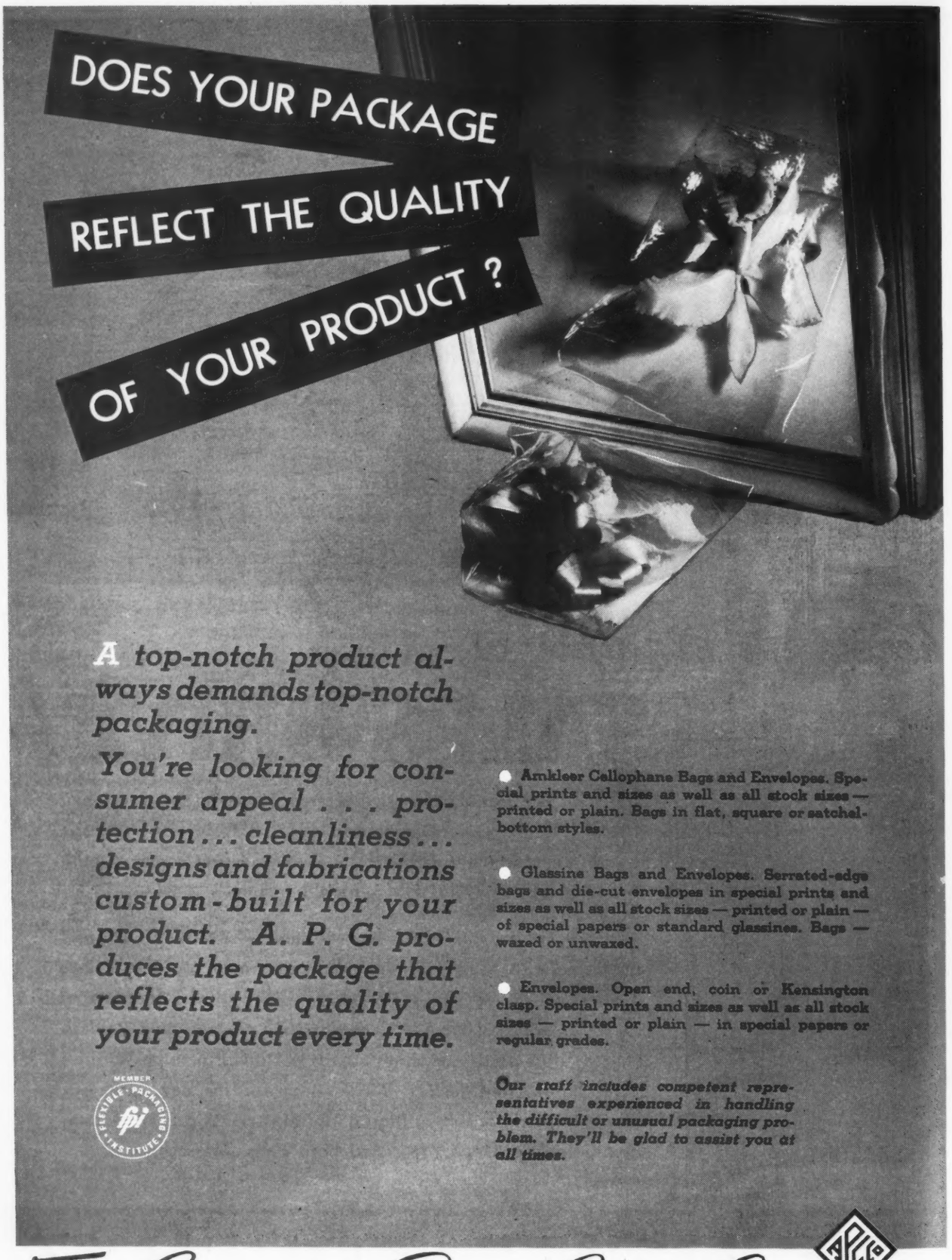


The Reed & Prince Recessed Head Screws with their close tolerance, easier application and steady bite for any size driver, represent a superior type of production screw — built for assembly line speed — selling on sight.

To get this screw driver and a supply of assorted screws into the hands of the production man, Reed & Prince depend on the Mason MailMaster — that sturdy, lightweight container which is America's number one mailing box. Perhaps your product needs sampling — why not investigate possibilities with Mason MailMasters. Write today for the new catalogue showing the entire line of Mason MailMasters. Write The Mason Box Company, Dept. (18), Attleboro Falls, Massachusetts.

The MASON BOX COMPANY

MANUFACTURERS OF AMERICA'S NUMBER ONE BOX . . . THE MASON MAILMASTER



A top-notch product always demands top-notch packaging.

You're looking for consumer appeal . . . protection . . . cleanliness . . . designs and fabrications custom-built for your product. A. P. G. produces the package that reflects the quality of your product every time.

MEMBER FLEXIBLE PACKAGING INSTITUTE fpi

- **Amkleer Cellophane Bags and Envelopes. Special prints and sizes as well as all stock sizes — printed or plain. Bags in flat, square or satchel-bottom styles.**
- **Glassine Bags and Envelopes. Serrated-edge bags and die-cut envelopes in special prints and sizes as well as all stock sizes — printed or plain — of special papers or standard glassines. Bags — waxed or unwaxed.**
- **Envelopes. Open end, coin or Kensington clasp. Special prints and sizes as well as all stock sizes — printed or plain — in special papers or regular grades.**

Our staff includes competent representatives experienced in handling the difficult or unusual packaging problem. They'll be glad to assist you at all times.

APGCo

The American Paper Goods Co. OVER 50 YEARS OF SERVICE

KENSINGTON, CONNECTICUT CHICAGO, ILLINOIS

No Fairy Story

When that ancient spinner of tales had Prince Charming find his princess by use of the glass slipper, he not only told the Cinderella story, but the first Glass Container story.

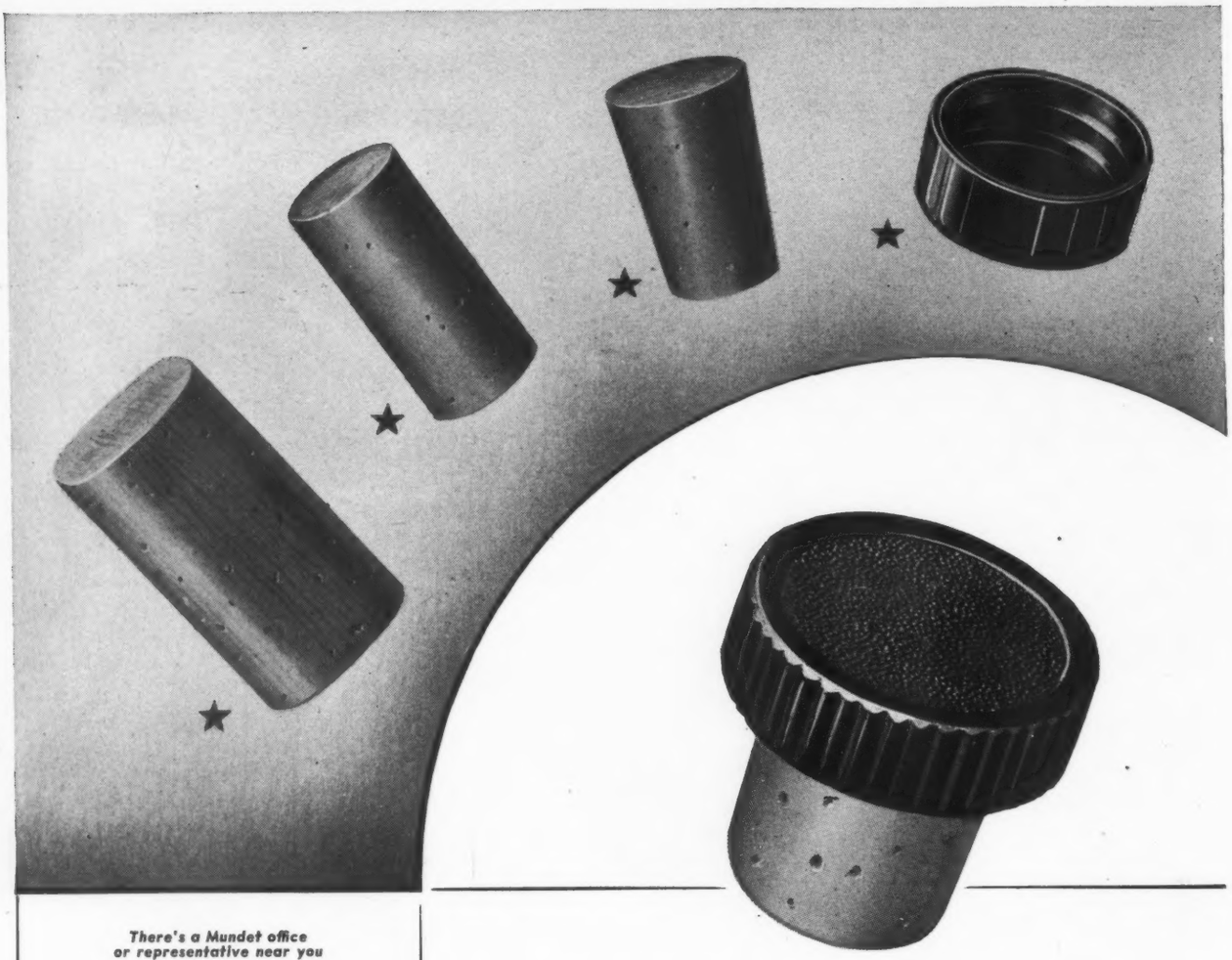
Prince Charming was a man of royal discernment. He wanted to see to be sure. . . . Thus ran the fairy story. Glass containers are no longer fairy stories—they are sales stories.

H-A Glass Containers combine packing efficiency and smart selling.

HAZEL-ATLAS GLASS COMPANY

WHEELING, WEST VIRGINIA

SAFE-SEAL YOUR PRODUCTS WITH MUNDET CLOSURES



There's a Mundet office or representative near you

ATLANTA
339-41 Elizabeth Street, N. E.
BROOKLYN 11
65 South Eleventh Street
CHICAGO 21
135 West 63rd Street
CINCINNATI 2
427 West 4th Street
DALLAS 1
505 Southland Annex
DENVER
The Stone-Hall Co.
DETROIT 26
335 West Jefferson Avenue
HOUSTON 1
Commerce and Palmer Streets
JACKSONVILLE 7, FLA.
1212 Mary Street
KANSAS CITY 7, MO.
1428 St. Louis Avenue
LOS ANGELES 31
1850 North Main Street
LOUISVILLE 22
1418 Heyburn Bldg.
NEW ORLEANS 16
315-325 N. Front St.
PHILADELPHIA 39
856 N. 48th Street
ST. LOUIS 4
2415 South Third Street
SAN FRANCISCO
440 Brannan Street
J. C. Millett Co.
118-32 Sacramento Street

In Canada:
Mundet Cork & Insulation, Ltd.
35 Booth Avenue, Toronto

UNIFORMITY of size and shape is an important advantage of Mundet machine-made Corks. Where earlier hand-made stoppers had variations in cutting and trimming, the modern Mundet Cork is duplicated faithfully in million lots. Cork is Mundet's specialized business. The safe-sealing of Mundet Corks is assured thru experienced selection of the raw material, expert grading and processing. After selection of the best grades for stoppers, the finished corks are checked by sorters, carefully trained in this work, in a final grading of cork quality. Mundet Corks remain lively and resilient, do not "set" or crumble. They safe-seal your product's distinguishing quality. Mundet Cork Corporation, Closure Division, 65 S. Eleventh Street, Brooklyn, 11, N. Y.

MUNDET CLOSURES

The skilled craftsmen of our organization take great pride in the production of the finest lithographed packaging, display and advertising materials, and are assisted by the most modern equipment.

To give your package or display the brillancy that invites sales for your product, colors are matched with spectrum analysis. Die-cut wrappers are projector-tested to assure uniformity and trouble-free operation of your packaging machinery.

Displays, Cut-outs, Box Wrappers, Folding Cartons, Labels, Folders, Inserts, Booklets and Calendars are created and produced by the Sale Lithograph Company for nationally known manufacturers and do an effective selling job throughout the world.

The SALE LITHOGRAPH CO.

Color Lithographers

210 WASHINGTON STREET BUFFALO 3, NEW YORK

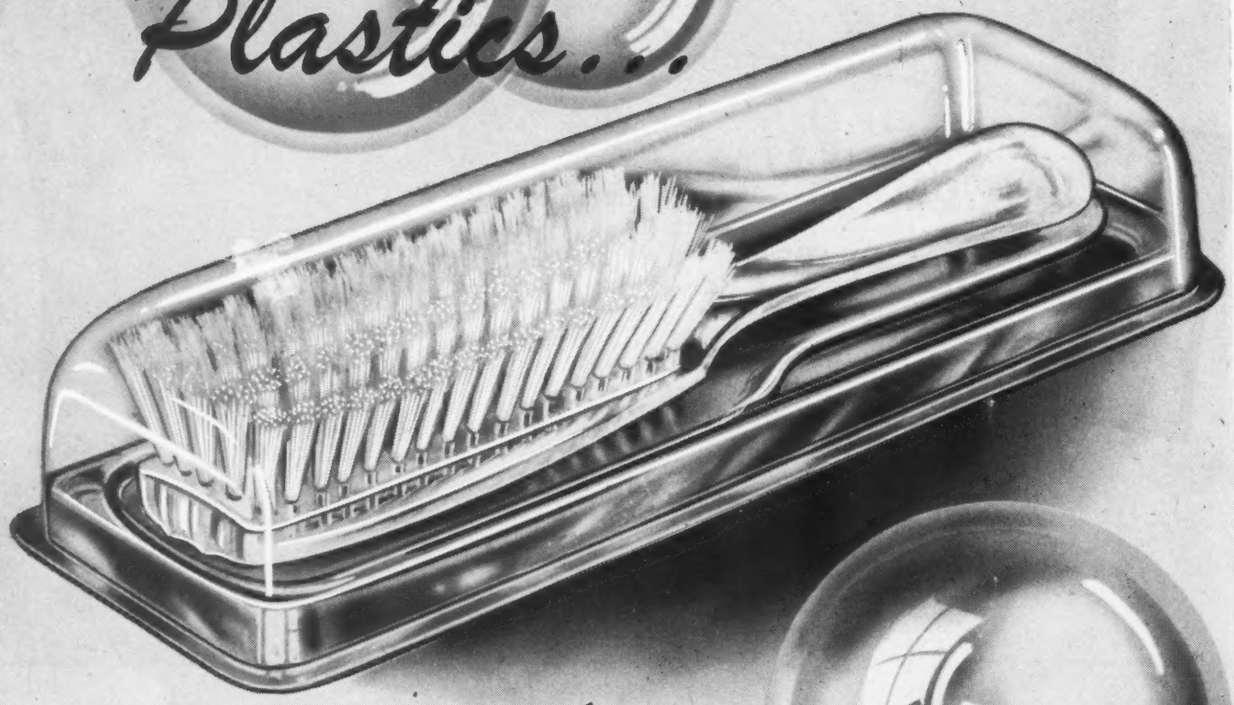
. . . with a special division devoted to the production of attractive economical folding cartons.

CREATORS AND PRODUCERS OF FINE COLOR LITHOGRAPHY SINCE 1904

Your Product...

FORM-FITTED IN

Plastics...



All Shapes
All Protected
All Textures

ALL manner, shapes and textures of eye-attracting packages can be and are being produced by us in plastics. And plastics then sells the product right through the form-fitted covers. The National Transparent Plastics Company, through war-time research and experience, has developed Plastic Packaging so that it now can compete successfully in price with other types of boxes, yet exceeds all in sales appeal.

NATIONAL TRANSPARENT PLASTICS COMPANY

SPRINGFIELD **MASSACHUSETTS**

Out Of America's Wartime Food Experience Comes This New Label Development

VitaMENU
CHICKEN PIE
★ TOMATO ASPIC
WHOLE WHEAT WAFERS AND BUTTER
FROSTED GRAPES
TEA
MILK FOR CHILDREN
★ TOMATO ASPIC
1 tablespoon plain gelatine
2 cups tomato juice
1½ teaspoons lemon juice
½ teaspoon celery salt
1 teaspoon sugar
Pinch of ground cloves
Green onions and green pepper
Lettuce
Soften gelatine in ½ cup of the cold tomato juice. Combine rest of tomato juice with remaining ingredients and heat to boiling. Remove from heat, add the gelatine, and stir until dissolved. Pour into individual molds which have been rinsed with cold water, and set in refrigerator to congeal. Unmold onto lettuce leaves, and garnish each with a spray of flowers made from slices of green onion and slivers of green pepper. Serve with mayonnaise or salad dressing. Serves 4

U-S VitaMENU
TRADE MARK REGISTERED
LABELS
Consumer Aid to Better Meal Planning

Colorful...appetizing...health promoting are these new labels developed exclusively by The United States Printing & Lithograph Company for the better merchandising of packaged foods.

● Out of the problems of feeding America at War has come a new and greater appreciation of good nutrition on the part of American housewives. To enable canners and food merchandisers to take advantage of this food trend, VitaMENU Labels were developed. Recognized nutritional standards have been used as a basis for all food servings used on VitaMENU Labels. The healthful delicious appetite appeal of these nutritious combinations of food servings are reproduced on your labels by a special patented process. There is a powerful new merchandising force in these eye appealing labels. For full information on VitaMENU Labels, call or write for a "U-S" representative.

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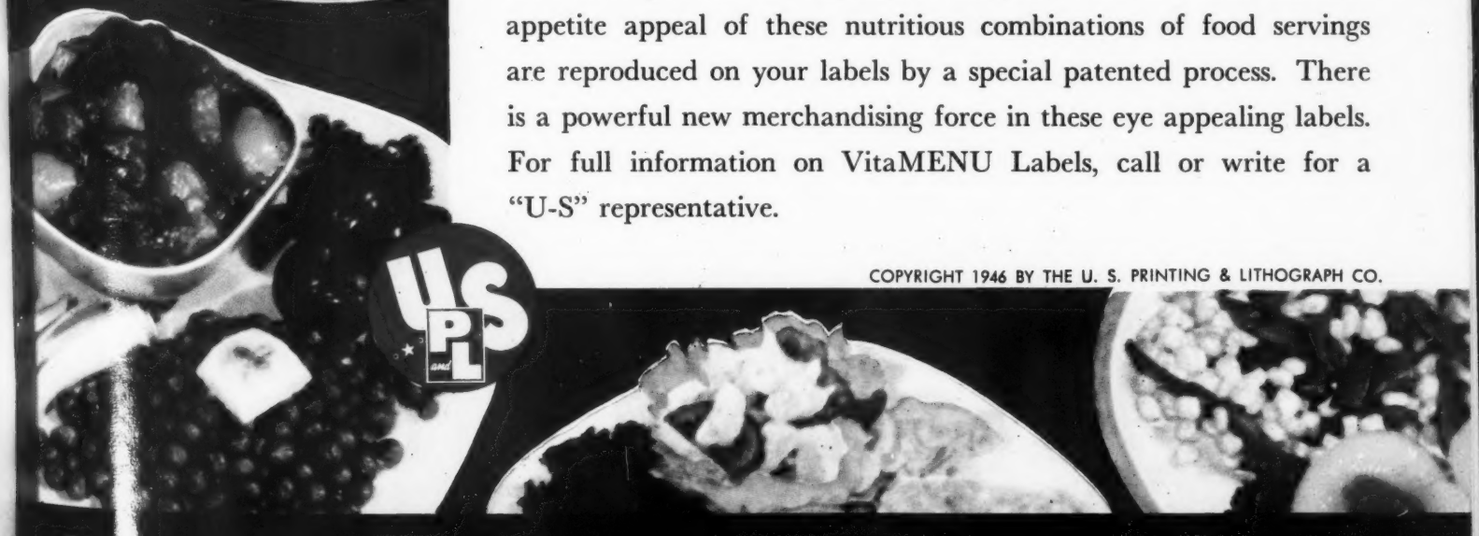
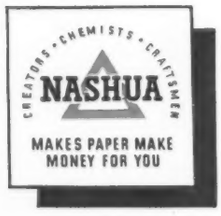


THE UNITED STATES PRINTING & LITHOGRAPH COMPANY
HOME OFFICE: 481 BEECH STREET, CINCINNATI 12, OHIO ★ SALES OFFICES IN PRINCIPAL CITIES
5 Great "U-S" Plants . . . Producing Highest Quality Packaging and Advertising Materials

your packaging ideas

will buzz like bumblebees, if you will forget the limitations of any one kind of paper or process, and put your problems up to an organization resourceful enough to make the material serve the idea.



Nashua is headquarters for packaging papers — waxed, coated, gummed, printed, embossed and laminated; also transparent materials including cellophane, acetate, pliofilm and glassine.

Nashua stands ready to assist you in developing your packaging ideas.

NASHUA GUMMED AND COATED PAPER COMPANY, NASHUA, N. H.

MODERN PACKAGING

VOLUME 19 MARCH 1946 NUMBER 7

So big

This big issue of MODERN PACKAGING is a progress report—a summing-up of packaging, postwar and in transition.

The editors, with the cooperation of the entire field, have made a special effort to bring together in this one issue all that is new and noteworthy in packaging methods, materials, equipment and design. In a way, it is a sort of preview of the first great postwar packaging exposition, to be held April 2 to 5 in Convention Hall at Atlantic City.

This 1946 Conference and Exposition, sponsored by the American Management Assn., marks another big milestone in the development of packaging. All previous meetings have been held either in New York or Chicago. Now packaging has attained such stature that it has outgrown the usual hotel ballroom facilities available in those cities, and is moving into the biggest single industrial exposition hall in the country.

The last A. M. A. Conference and Exposition, held in Chicago in the spring of 1944, broke previous records in attendance and number of exhibitors. Prevailing opinion is that new records will be hung up this year.

In the past, A. M. A. Packaging Conferences have provided excellent opportunities to learn the latest developments in packaging. The program prepared for the April meeting promises to maintain if not exceed previous standards. As always, this program is a composite of the thinking of a group representative of the many aspects of packaging—raw materials, equipment, fabrication, merchandising. Fitting accompaniment for the conference, the exhibits will present specific and concrete examples of technical progress in all those areas.

The visitor, no matter how expert he may be, will find much to learn. Packaging is a concern of moment for every department of a business, and every line of business has at least some concern with packaging. During the past few years the new developments have come thick and fast, with a world war as the chief speeding-up force. Now many of those developments—which until recently have been reserved exclusively for military service—will be available for commercial use. They will not be adopted without the careful scrutiny of the commercial user, whose standards may differ from those of the government procurement agencies; for, whereas the military buyer was concerned primarily with protection, regardless of expense, the commercial user must apply the additional measuring sticks of economy, convenience and merchandising suitability.

And so, for the first time since the cessation of hostilities, there will be discussions that take into consideration ALL of the aspects of packaging. No longer is there any reason for military secrecy to put up the "No Admission" sign; the knowledge gained during the war years will now be an open book for those who are willing to read it. Slowly the bits and pieces of a disordered world are fitting themselves together into some semblance of order. Conferences like this one—made up of serious-minded people bent on peaceful commercial achievement—will help to speed the return of a constructive civilization.

EDITOR-IN-CHIEF

The Packaging Show is ready

140 exhibitors and 8,000 visitors will take over Atlantic City for the first big postwar Exposition and Conference, April 2-5

One hundred and fifty per cent bigger than the last show held two years ago, the 17th Annual Packaging Exposition will open its doors at Convention Hall in Atlantic City at noon on Tuesday, April 2, for a four-day run.

Concurrently, and under the same roof, the American Management Assn. will hold its annual Conference on packaging, packing and shipping problems, with morning and afternoon sessions scheduled for April 2, 3, 4.

The combined Exposition and Conference will be by all odds the largest affair of its kind ever held. One hundred and forty exhibitors will make it the occasion for display and demonstration of the latest developments in every type of packaging material and equipment. Floor area is two and one-half times as large as that of the last show held in Chicago in 1944. While attendance will not have the benefit of the purely "local" crowd which throngs the exhibits in New York or Chicago, preparations are being made to handle a registration of around 8,000.

This is certain to be an unusually intent and serious-minded crowd. With very few exceptions, the visitors who register at Convention Hall will have made a trip to Atlantic City for the express purpose of briefing themselves on all that is new in packaging. More than ever before will sit in on the Conference sessions.

Fifty-one Atlantic City hotels (all but two have now been released from Army service), with room for some 20,000 persons, have pledged themselves to take care of every Packaging Exposition visitor—even those who make last-minute requests. Large blocks of rooms have been set aside for Exposition visitors in all the big Boardwalk hotels and reasonable winter rates will prevail.

This will be the only large convention to be held in Atlantic City that week and, since the spring resort season will not yet be under way, there is little doubt as to the adequacy of hotel facilities. The same hotels accommodated 15,000 visitors during the Canners' Show in February and while service may not have been up to prewar standards it was far better than could have been expected for such a crowd in any other city in the country at present. Several of the largest hotels which had been released by the Army only a few days

before the Canners' Show have now been back in private operation for two months and they report that they are fully staffed and equipped.

Those who have not already secured their hotel accommodations are urged to write, wire or phone immediately to the Packaging Exposition Housing Bureau, 16 Central Pier, Atlantic City, N. J.; telephone, Atlantic City 4-1211.

The setting for this first great postwar packaging show could not be better. A glance at the map printed on the reverse side of the insert folder with this article will show the situation. Convention Hall—the largest single industrial exposition hall in the country—is in the center of the Boardwalk hotel district and is entered directly from the walk. Up and down the Boardwalk, within a half-dozen blocks of the hall, are more than 30 of the leading hotels.

The railroad station, with 17 trains arriving daily from Philadelphia and New York, is four blocks from the hall. By rail, Atlantic City is three hours from Pennsylvania Station, New York, and an hour and a half from Philadelphia.

For those coming from more rigorous climates, the Atlantic City stay should be a delight. Tempered by warm winds which blow almost constantly off the Gulf Stream not far away, the weather in early April is usually like that of mid-May farther inland. While only the hardier souls will want to brave the surf, there will be plenty of opportunity for restful relaxation in the warm sun. For many packaging executives, this will be the first real break in the long grind of war production and reconversion.

The huge Convention Hall, offering four acres of unbroken floor space under a rounded dome rising the equivalent of 18 stores in height, will be almost completely filled by the unprecedented packaging exhibits. Many exhibitors who could not previously obtain space at the show will be accommodated this year and many important developments which were kept secret during the war will be unveiled. This big issue of MODERN PACKAGING offers a preview of some of these developments, but it could not by any means encompass all those worthy of mention.

The Exposition floor will be open from noon till 10 P. M. on Tuesday, April 2; from noon until 7 P. M. on Wednesday and Thursday, and from 10 A. M. until 4 P. M. on Friday. So large and well-planned are the entrances and aisles of the Hall that there will be no crowding even if 10,000 persons descend on the show at one time. Visitors will be asked to register and show company affiliation, but there will be no charge for admission.

Sessions of the Packaging Conference will be held in the Ballroom of the same building, reached by a ramp up just one flight from the entrance foyer. Designed for this express purpose, the Ballroom has a capacity of 5,000, and can be set up to accommodate any needs. It has a stage, amplifiers and excellent lighting.

The three-day conference program has been organized around three main subjects: merchandising and general considerations, machinery and equipment, and packing for shipment. Although all of the six sessions are general meetings, open to all, the program has been arranged so that those having only limited time can

Convention Hall offers 4 acres of unbroken and uncrowded floor space under a ceiling 18 stories high.

pick the sessions devoted to their specialized interests.

Realizing the tremendous interest that has been built up during this reconversion period in both merchandising and functional aspects of packaging, the program committee has acted with unusual care. The program topics are those which hundreds of members of the A. M. A.'s Packaging Division requested.

Nearly 400 member firms were polled with a long list of topics and their replies were scored as follows:

General topics

1. What has come out of war experience in methods, materials and research that has peacetime application?
2. Package testing—in the home, in the laboratory, in the plant.
3. Packaging costs—elements to be considered and methods of determination.
4. A check-list for sound package development and production.

Machinery and production

1. Materials handling, unit loads and palletizing.
2. Packaging plant layouts.
3. What are the new developments in packaging machinery?
4. Machine operations for fresh and frozen food packaging.

Materials

1. The general availability of all packaging materials for the short-term outlook.
2. Paper—what is the outlook? New applications; cost comparisons with other materials.
3. A check-list of usefulness of all basic packaging materials.
4. New developments and applications of foils, including laminations.
5. The relative merits of glass, plastics and tin as basic packaging materials.
6. Plastics—developments in closures and the applications of protective films.

Merchandising and display

1. Package design—training programs, package development departments, trends, design pretesting, utilization of new materials, consumer convenience.
2. New developments in package merchandising, including self-service and syndicate stores.
3. Methods of testing consumer reactions.
4. Developments in consumer convenience.

Shipping

1. Packaging for air cargo shipments.
2. Rule 41—contemplated changes, damage claims.
3. A check-list of container standards of performance.
4. New container testing devices.
5. Export packaging—containers, custom-made packages and consumer packaging.
6. Prepacking—costs vs. service claims.

Throughout the survey, one opinion was almost universally expressed: Forget the war and discuss peacetime problems and operations. Accordingly, the program has been developed along that line.

This is not only the first Packaging Exposition in two years; it is the first in five years in which the subject of packaging for war could be put entirely aside in favor of the more normal subject of packaging for competitive markets.

The regular semi-annual meeting of members of the Packaging Machinery Mfgrs. Institute will be held in conjunction with the A. M. A. Conference. The P. M. M. I. will meet at the Hotel Dennis on Monday, April 1. Business sessions will be followed by the semi-annual banquet on Monday evening at the same hotel. The business meetings will be closed, but members may bring guests to the banquet.

Members of advisory committees

Members of the Packaging Conference Planning Council are Roland L. Baum, United Drug Co.; Col. Frederick F. Berlinger, Quartermaster Corps; Christopher W. Browne, MODERN PACKAGING; L. V. Burton, *Food Industries;* F. C. Campins, National Starch Products; Edward Dahill, Freight Container Bureau; N. A. Fowler, General Box Co.; Joseph Givner, National Merchandising Corp.; Norman Hamilton, Montgomery, Ward & Co.; Royal A. Hoffman, Arvey Corp.; W. R. Hummel, Western Electric Co.; P. P. Kennedy, E. I. du Pont de Nemours & Co.; Douglas Kirk, Quaker Oats Co.; Comdr. Boyd R. Lewis, Navy Department; J. D. Malcolmson, Robert Gair Co.; George A. Mohlman, Package Machinery Co.; M. Ohm Pottlitzer, *Packaging Parade;* W. L. Romney, Procter & Gamble Co.; L. B. Steele, Du Pont; H. A. Sumner, Norwich Pharmacal Co.; F. L. Triggs, Riegel Paper Corp., and George Welp, Interchemical Corp.

The Exhibitors Advisory Committee of the Packaging Exposition includes M. C. Pollock, Du Pont, chairman; A. B. Clunan, Goodyear Tire & Rubber Co.; Alan S. Cole, MODERN PACKAGING; J. M. Cowan, Dobeckmun Co.; Robert D. Handley, Sylvania Industrial Corp.; Roy D. Hanson, Milprint, Inc.; L. I. Hodgdon, Pneumatic Scale Corp.; H. H. Jones, Kalamazoo Vegetable Parchment Co.; M. P. Junkin, National Metal Edge Box Co.; M. R. Kambach, Aluminum Co. of America; L. L. McGrady, Eastman Kodak Co.; Paul Meelfeld, Hinde & Dauch Paper Co.; C. E. Schaeffer, Stokes & Smith Co., and Paul Thompson, Sherman Paper Products Corp.

The American Management Assn. staff includes Henry J. Howlett, in charge of Conference arrangements, and Saul Poliak, in charge of the Exposition.

Although the conference is scheduled to close on Thursday evening, the Exposition will remain open until 4 P. M. Friday, April 5.

For those unable to attend the Conference—and as a reference file for those who do attend—a digest of proceedings of the Conference will be published in the April issue of MODERN PACKAGING.

TEAR THIS OUT AND TAKE WITH YOU

Your MODERN PACKAGING *guide to A. M.*

TEAR THIS OUT AND TAKE WITH YOU

Company	Booth Number
ABC Packaging Machine Corp.	425–426
Aluminum Co. of America	201
Amer. Machine & Foundry Co.	62
Amsco Packaging Machinery, Inc.	304
Angier Sales Corp.	507
Anigraphic Process, Inc.	10
Arabol Manufacturing Co.	402–403
Armstrong Cork Co.	129
Arvey Corp.	61
Associated Cooperage Industries of America	11
Automatic Web Guide Co.	48–49
Bakelite Corp.	3
Barrett-Cravens Co.	434
Bemis Bro. Bag Co.	429
Betner, Benj. C., Co.	311
Better Packages, Inc.	413
Bingham Bros. Co.	111
Burt, F. N., Co., Inc.	423
Carter Engineering Co.	56
Celanese Plastics Corp.	210
Celluplastic Corp.	414–415
Celon Co.	514
Central Ohio Paper Co.	432–433
Central States Paper & Bag Co.	314
Champlain Co., Inc.	114–115
Chandler-Evans Corp.	57
Chaspec Manufacturing Co.	40
Chicago Show Printing Co.	7
Clark, Geo. V., Co., Inc.	404
Cleveland Container Co.	418
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Eronel Services, Inc.	501
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Gaylord Container Corp.	209
General Box Co.	216
Gerrard, A. J., & Co.	36
Goodyear Tire & Rubber Co., Inc.	204
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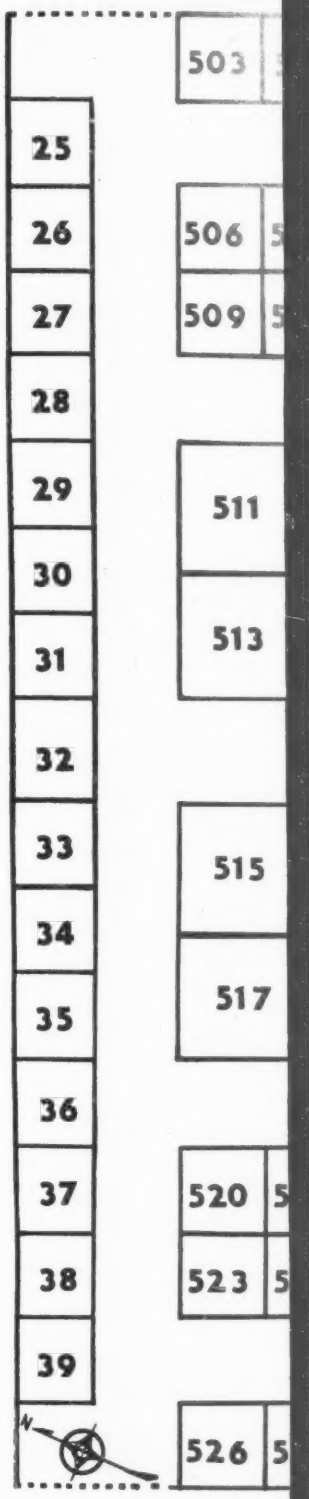

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Packaging Parade...
Packaging Service...
Packing & Shipping
Pack-Rite Machines
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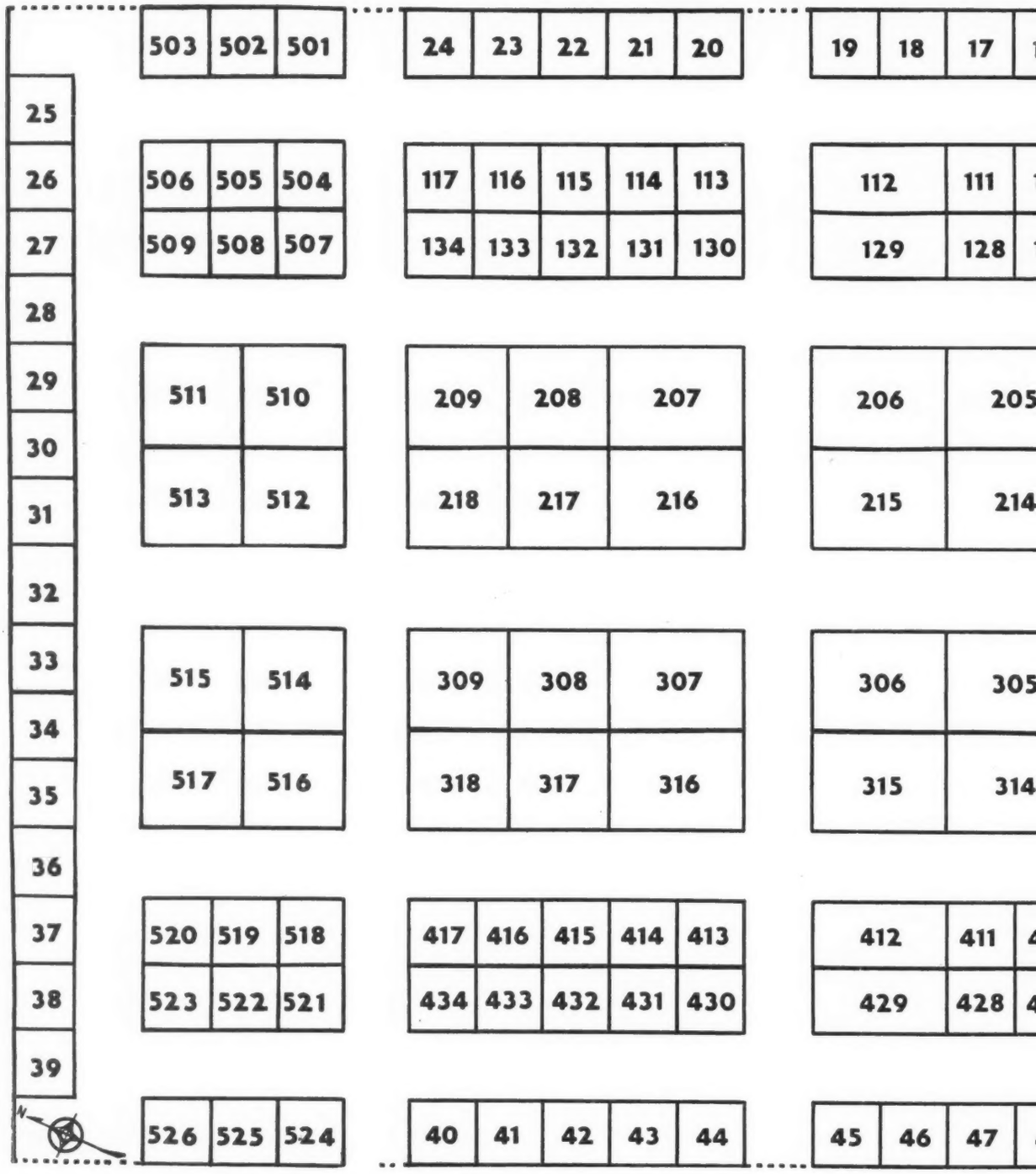

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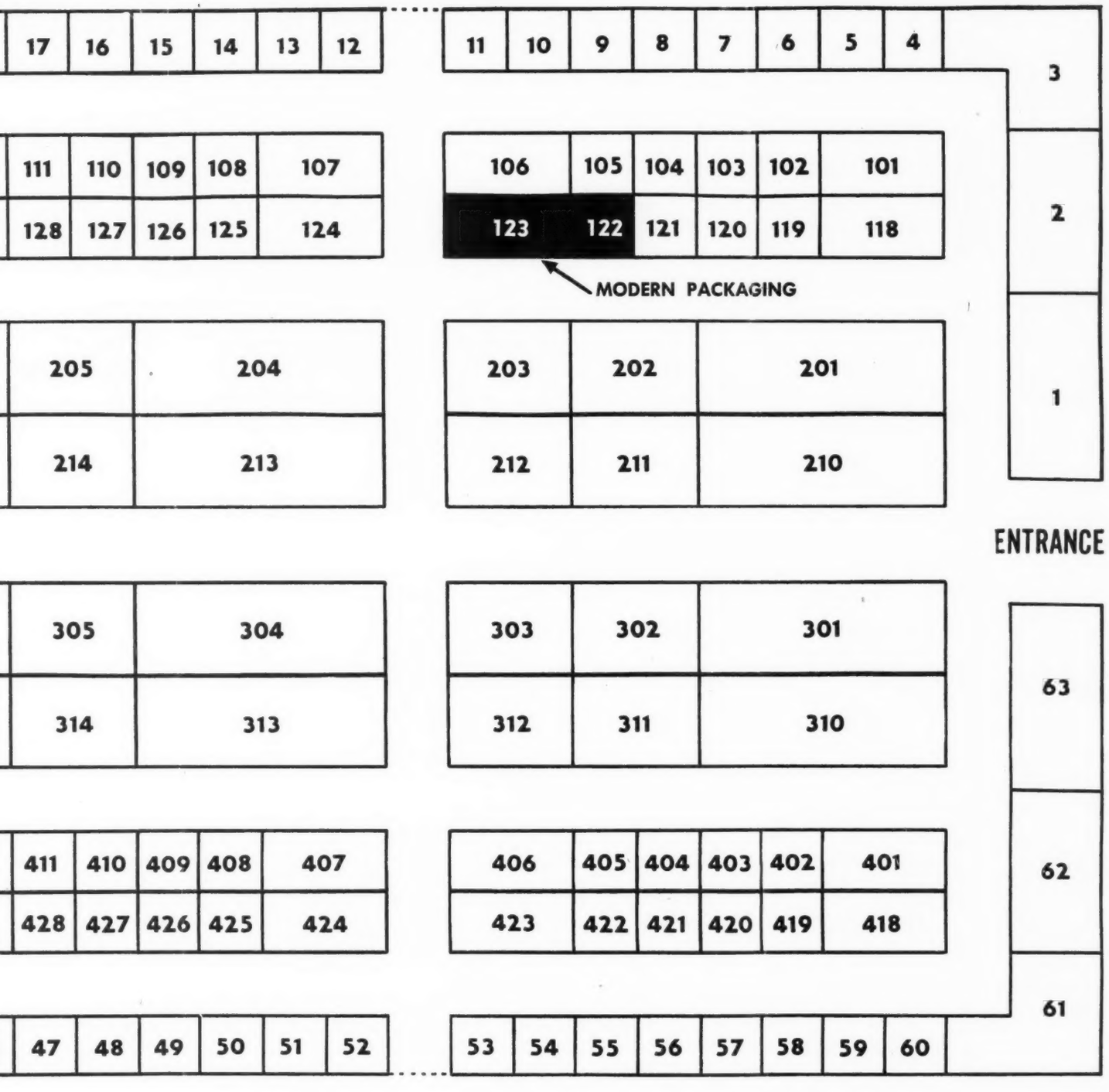

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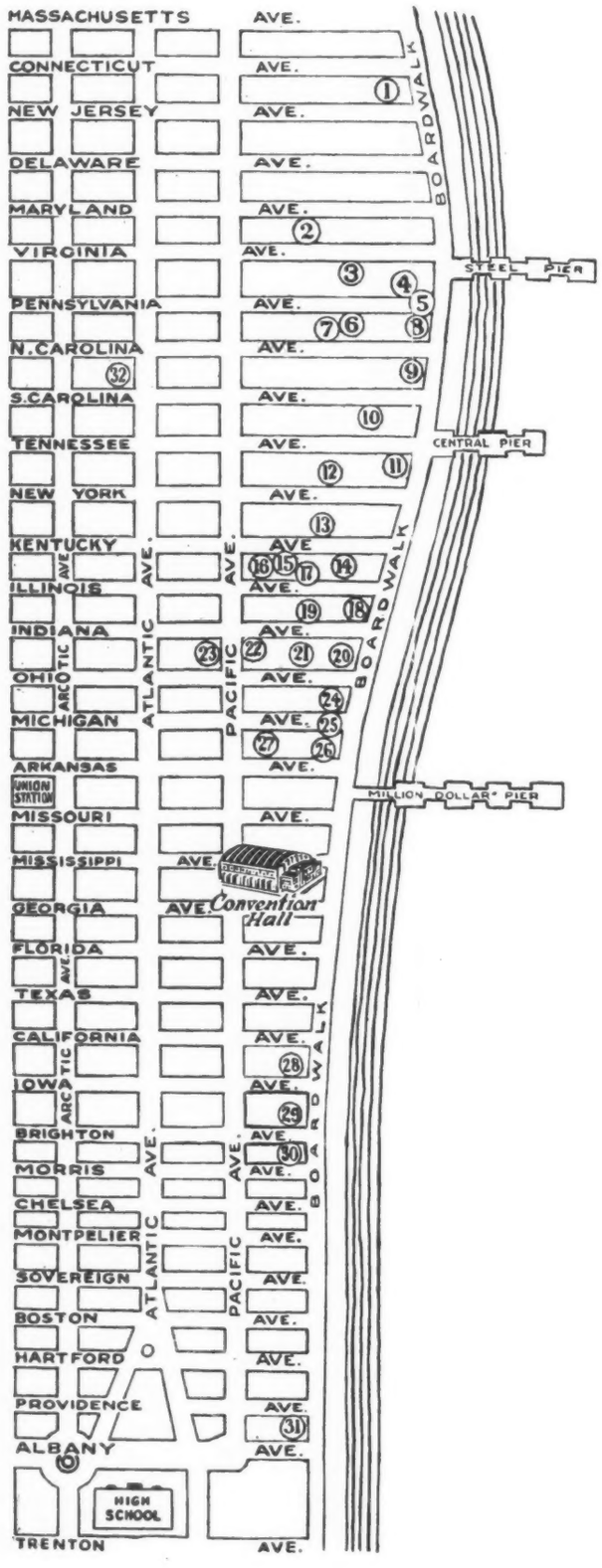
Atlantic City

Hotel district and Convention Hall



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A. M. A. Packaging Conference Program

ATLANTIC CITY, APRIL 2, 3, AND 4, 1946

(All Conference sessions will be held in the Ballroom of Convention Hall, reached by a ramp from the main entrance to the Exposition floor, just off the Boardwalk.)

TUESDAY MORNING, April 2

Chairman: Alvin E. Dodd, *President, American Management Assn.*

10:00 a. m.

THE OUTLOOK ON CRITICAL PACKAGING MATERIALS—Edward J. Detgen, *Sales Manager, Building Materials Division, Owens-Corning Fiberglas Corp., Toledo, Ohio.*

11:00 a. m.

THE TOP MANAGEMENT APPROACH TO PACKAGING—R. D. Elwell, *McKinsey & Co., New York.*

TUESDAY AFTERNOON, April, 2

Chairman: F. S. Leinbach, *Assistant to the General Manager, Riegel Paper Corp., New York.*

2:00 p. m.

THE PEACETIME APPLICATION OF WARTIME PACKAGING DEVELOPMENTS

Moisture Protection—Dr. Charles E. Waring, *Director of Research, Davison Chemical Corp., Baltimore, Md.*

Foils and Laminations—C. F. Manning, *Assistant Vice President, Reynolds Metals Co., Richmond, Va.*

Fragile Articles—R. G. Anderson, *Packaging Methods Supervisor, Sperry Gyrosocpe Co., Great Neck, N. Y.*

Metal Articles—W. T. Black, *Packaging Engineer, Western Products, Inc., Newark, Ohio.*

Pharmaceuticals—H. E. Nack, *Packaging Specifications Dept., Sharp & Dohme, Inc., Philadelphia, Pa.*

WEDNESDAY MORNING, April 3

Chairman: W. R. Hummel, *Merchandise Methods & Results, Western Electric Co., Inc., New York.*

9:30 a. m.

PACKAGING FOR AIR CARGO SHIPMENT—Paul E. Burbank, *Manager of Cargo Sales, United Air Lines Corp., Chicago, Ill.*

10:30 a. m.

MODERN MATERIALS HANDLING AND WAREHOUSING TECHNIQUES—Curtis H. Barker, Jr., *Director of Research, Pallet Sales Co., New York.*

11:30 a. m.

DO FIBRE BOX SHIPPING PRACTICES NEED MODIFICATION?—O. B. King, *Fourdrinier Kraft Institute, New York.*

WEDNESDAY AFTERNOON, April 3

Chairman: Albert W. Luhrs, *Vice President, AMA Packaging Division.*

2:00 p. m.

SHIPPING CONTAINER MATERIALS TESTING

A symposium covering the following tests:

Mullen and Beach—R. L. Beach, *General Electric Co., Schenectady, N. Y.*

Compression—T. J. Gross, *President, Container Testing Laboratories, Inc., New York.*

Vibration—Earl R. Stivers, *Director of Research, Package Research Laboratory, Rockaway, N. J.*

Drop—A. L. Green, *Special Representative, Freight Container Bureau, Assn. of American Railroads, Chicago, Ill.*

General Electric—J. H. Goss, *Engineer, Works Laboratory, General Electric Co., West Lynn, Mass.*

Drum—T. A. Carlson, *Chief, Div. of Material Containers, Forest Products Laboratory, Madison, Wis.*

Conbur—Edward Dahill, *Chief Engineer, Freight Loading & Container Bureau, Assn. of American Railroads, Chicago, Ill.*

Correlating Laboratory Tests with Actual Performance—Robert C. McKee, *Chief, Container Section, Institute of Paper Chemistry, Appleton, Wis.*

THURSDAY MORNING, April 4

Chairman: Joseph Givner, *President, National Merchandising Corp., New York.*

9:30 a. m.

PACKAGE DESIGN TRENDS AND STANDARDS—W. F. Deveneau, *Sales Promotion Manager, National Folding Box Co., New Haven, Conn.*

10:30 a. m.

RESPONSIBILITY OF THE PACKAGE IN SELF-SERVICE SELLING—L. B. Steele, *Sales Manager, Cellophane Division, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.*

11:30 a. m.

PRESENTING YOUR PACKAGE AT THE POINT OF PURCHASE—William H. Carmichael, *Sales Manager, Arvey Corp., Jersey City, N. J.*

THURSDAY AFTERNOON, April 4

Chairman: Douglas Kirk, *Mechanical Research Department, The Quaker Oats Co., Akron, Ohio.*

2:00 p. m.

THE PACKAGING MACHINERY SITUATION TODAY—Frank B. Fairbanks, *President, Horix Manufacturing Co., Pittsburgh, Pa.*

3:00 p. m.

SPECIFICATIONS FOR ADHESIVES—Gerald Reinsmith, *Ordnance Division, War Department, Washington, D. C.*

1

2

1—Folding carton with metal clip top is suggestive of the typical North Carolina tobacco-curing barn. 2—Top when open, easily forms a pouring spout for sowing seed in hot beds. This one-ounce package may hold seed for an entire year's crop for a small farmer.

One-ounce barn . . . it sells tobacco seed

When a package introduces modern merchandising principles in a field where such principles have not previously been used or considered, it is news. Such a package is the "tobacco barn" carton now being used by John F. McNair, Inc., of Laurinburg, N. C., to market their tobacco seed.

This is a highly specialized product in a small but intensely competitive field. The seed is sold to commercial tobacco growers who vie with each other to obtain the finest strains of seed with the highest yield. Sales results on the new package show that they are as susceptible to the suggestion of high product quality conveyed by smart packaging as any other consumer and that they are appreciative of protection and convenience factors.

Good tobacco seed sells for $1 to $2 an ounce, and one ounce—sufficient to plant from one to two acres of tobacco—is the customary package unit. Previously, ounces of tobacco seed had been sold in the Laurinburg area only in printed envelope packages which had mostly existed unchanged for many years, with no regard for the advantages of display value, brand identification and package utility.

McNair sought a distinctive package to give strong brand identification to their product. A pouring spout was desirable as an aid to the customary hand-planting operations. Tobacco plants, like tomatoes, are raised in hot beds and then transplanted to the field when weather and ground conditions permit, sometime in the early spring of the year. Growers are mostly small farmers, planting only an acre or two, so the seed they buy may represent in one tiny package their entire cash investment in a year's crop.

McNair took their problem to a package supplier. To get away from the usual envelope, a square, clip-top carton was considered and this shape just naturally suggested the reproduction of a log tobacco-curing barn—suggestive of the product and familiar to all prospective buyers of the seed. The small, rough-hewn barn reproduced on this interesting carton is typical of curing barns in the Laurinburg area. Just as a picture of a bird dog attracts a hunter, it has a certain charm and fascination for tobacco growers.

The cartons, shipped flat to McNair, are readily set up and filled. Bottom flaps are glued and the pinch-top is closed with a metal clip. Lettering under the "eaves" on one end instructs the user "to open, raise end and slide clip." The open top is then easily pinched into a pouring spout, as shown in Fig. 2.

An open square is provided, at the opposite end of the roof, for price marking. On one of the roof surfaces there are three panels on which the packer imprints certification, germination and test-date data. Side panels for important merchandising legends are made to represent the cloth sheets customarily used to cover young tobacco plants, tacked on the wall of the barn to dry. Labeling, which is in green, brown and blue against the brown-and-white background, plays up the fact that this is "yield tested" tobacco seed, that it is guaranteed by the seller and that it is certified by the North Carolina Crop Improvement Assn.

Among the men who know tobacco best, they say, this package is a favorite.

CREDIT: *Carton designed and produced by The Gardner-Richardson Co., Middletown, Ohio.*

Quaker Oats

modernizes a 69-year-old character

1

2

1—Quaker Oats—one of first packaged cereals. First packages were square—handfilled and glued. 2—The round package was introduced in October, 1915.

Sixteen miles East of Akron is the town of Ravenna, Ohio. There, in 1877 four men established a mill to grind oatmeal. They were searching for a name to use in incorporating the new company.

One of them, Henry D. Seymour, looking through an encyclopedia, paused at a description about the Quakers. The principle of this character, he felt, was exactly that which would symbolize the character of the new business.

Another of the four men, William Heston, is said to have seen a picture of William Penn, whose Quaker garb and character gave him the inspiration for the name of the new company.

No matter who gets the credit, this was the origin of the Quaker Mill Co., which has given a name to The Quaker Oats Co. and to packaged Quaker brands that are known the world around among men of all races, climes and creeds.

"The figure of the man in the Quaker garb," was filed and registered in the United States Patent Office, August 17, 1877.

Quaker Oats were among the first cereals in the world to be packaged and today the trademarks, trade rights and good will of The Quaker Oats Co. are listed at many millions of dollars and one of the most important assets of the company.

The "Quaker" has continued to grow with the times. Just as The Quaker Oats Co. was among the first to bring its products out of barrels into clean, convenient consumer packages for pantry shelves, it is also among the first of the companies whose traditions are linked with the history of American merchandising to enter the postwar era with a complete change of package design.

Less frequently will the old-fashioned, full-length figure of the Quaker with scroll in hand be seen on the shelves of the modern market. In his place is a new design of the old figure, his smile more expansive, but showing only his head and shoulders. Just the same, he is identifiable as the same sterling character in broad-brimmed hat, stock and typical flowing locks.

It was a momentous decision a year or so ago when Quaker's management appointed one of the leading package designers to change a package which for more than 60 years had been synonymous with American breakfast foods.

This decision to modernize was prompted by the same kind of foresight that inspired Henry P. Crowell to advertise Quaker Oats in small packages to the American housewives during his early days with the company which he was to serve as chairman of the board until his retirement in 1942.

The revised head-and-shoulders Quaker symbol has many advantages. It continues more forcibly than the old, the Quaker character in broad-brimmed hat, typical hair dress and stock. Placed on a package, it offers greater visibility, because the area for head and shoulders makes it possible to illustrate the kindly Quaker figure to better advantage than the full-length figure. The trademark can be printed more colorfully and is a convenient symbol for reproduction wherever it is used. The company feels it will also show up more forcefully in magazine and newspaper advertising.

This new Quaker has been introduced as the trade-

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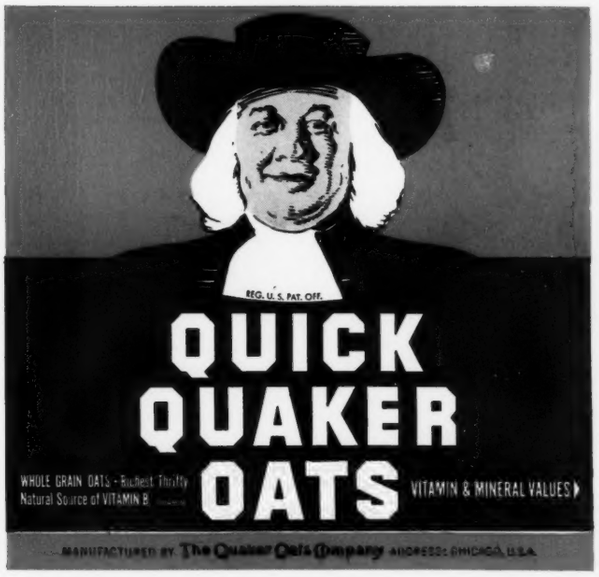

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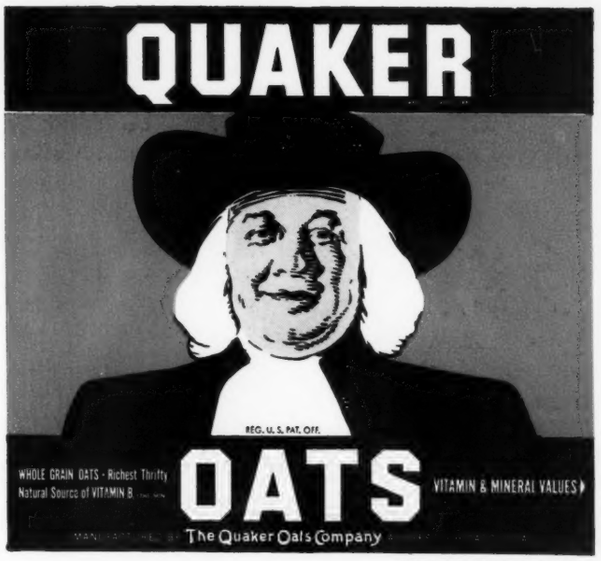

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COLOR RENDERINGS BY JIM NASH

3—New Quaker design. The kindly, smiling Quaker is still there, more prominent than ever, but only a head-and-shoulders view that is more effective for display and advertising. **4** *and* **5***—The way the new Quaker looks in color illustrated by labels reproduced in miniature.*

mark symbol on all of the "Quaker" products. Beneath it appears a swirled, red-edged "ribbon" with the word, "Quaker," in bright blue sans serif letters against a white background, so that the new Quaker is immediately seen, whether on a yellow, red or blue background.

So skillfully has the change been made that, in spite of the striking innovation there will be no doubt in the consumer's mind when she sees the new packages that she is getting the same Quaker quality products. At the same time she will be guided more quickly to the shelves by the greater eye appeal of the new packages.

The revised version of the Quaker will be seen on all packages: the Oats group; corn products, including hominy grits and corn meal; Muffets, the company's round shredded wheat biscuit; macaroni, spaghetti and egg noodles; barley; Pettijohn's; Puffed Wheat and Puffed Rice Sparkies, and the Quaker Pack-O-Ten Cereals, the company's cellophane-wrapped variety package.

The round package is continued for Quaker Oats, both in the 3-lb. and 20-oz. sizes and also for Quick Quaker Oats and Instant Oats. There has been no change, either, in package forms for the noodles, spaghetti or macaroni, but the cartons and wraps have been completely revamped in color and modernized in appearance. A brighter yellow and a more pleasing use of red and blue add a great deal to eye appeal.

The two Muffets package units have been changed from a hexagonal carton containing 10 biscuits and a horizontal type used in certain geographic areas to a standard vertical one containing 12 biscuits. The front panel now carries the new symbol of the Ouaker with an appetizing color illustration of the biscuits served with fruit. On the reverse side is a series of animal cartoons to appeal to children. There are five different sets of these cartoons which encourage Mother to purchase until the kids have the complete series.

Pettijohn's has moved from a round container into a square carton, tight-wrapped, with a large symbol of

6—*Quaker corn products have been adapted to take their place in new family of packages. In this group are three round packages and square carton for the 1½-lb. size.*

the Quaker replacing the old Pettijohn grizzly bear. This change is sectional at present.

On the Puffed Wheat and Puffed Rice packages, the new Quaker has moved into a central position just above the revised illustration showing the food "shot from guns." Back and side panels are designed with promotional data about the product in addition to a series of airplane pictures in full color for the youngsters.

These new packages are also a different shape—wider and not quite so high. The net weight of the new packages is exactly the same as the old, but, because of the improved shape, they can be cut to better advantage and, it is said, save enough board to make an additional carton from every sheet.

An aid to the grocer on all of the new packages is a blank white space left on the top or end of every carton for marking prices.

The new emphasis on the brand identity of the Quaker packages is consistent with the entire history of The Quaker Oats Co. and its predecessors, which practically parallels the development of packaging from the cracker-barrel era.

Until the middle of the Nineteenth Century oatmeal in this country was considered only a food for children and invalids. It was sold in very small quantities from glass jars in drug stores and apothecaries. Ferdinand Schumacher, a German immigrant, who had ground oatmeal in a grocery store in the old country, was one

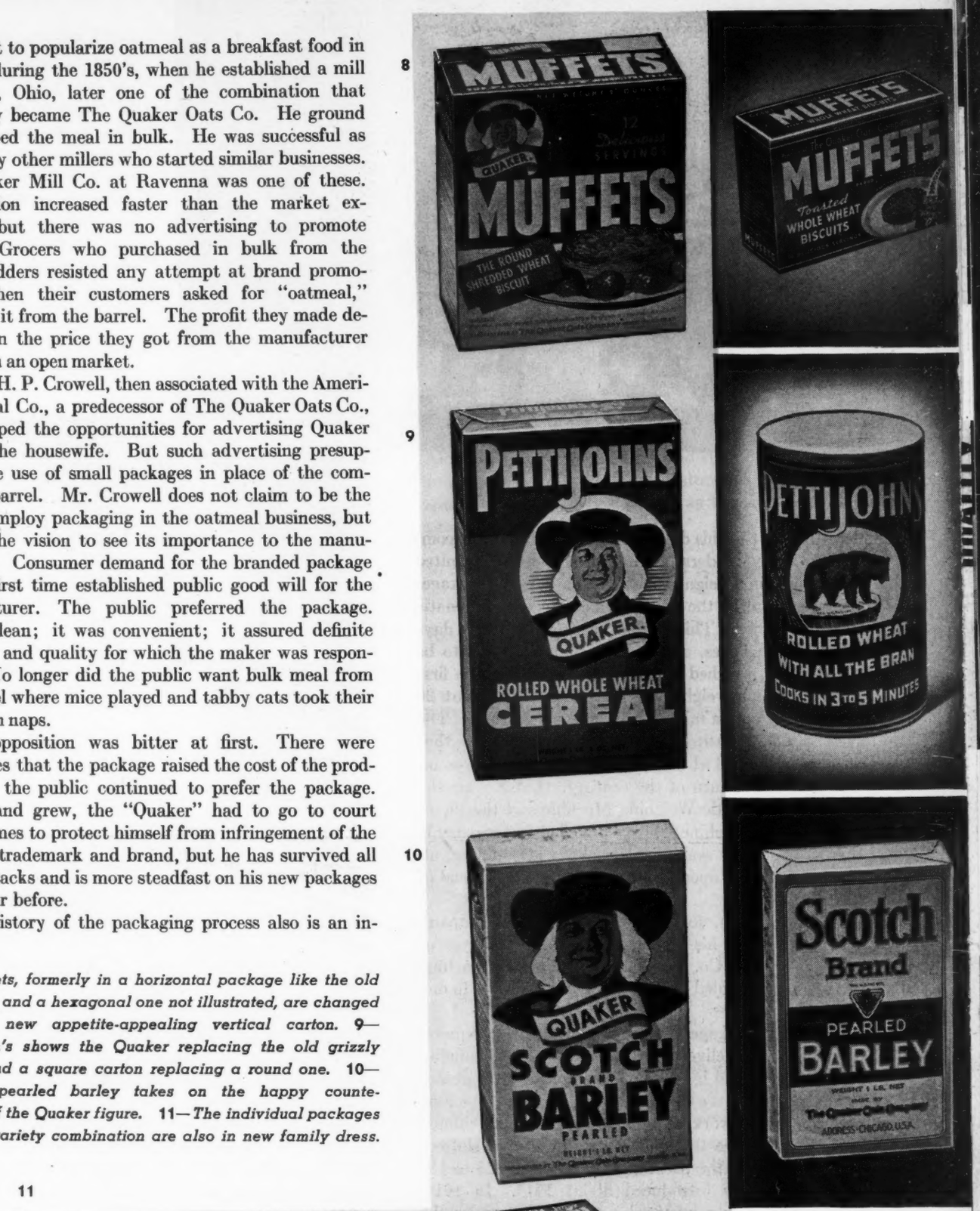
7—*Trademark is greatly strengthened on new packages for noodles, macaroni and spaghetti. Colors are improved for better visibility. New Puffed Rice and Puffed Wheat Sparkies now have Quaker motif in center. New cartons are so cut that they save enough paperboard to make one more carton per sheet of board.*

of the first to popularize oatmeal as a breakfast food in America during the 1850's, when he established a mill at Akron, Ohio, later one of the combination that eventually became The Quaker Oats Co. He ground and shipped the meal in bulk. He was successful as were many other millers who started similar businesses. The Quaker Mill Co. at Ravenna was one of these. Competition increased faster than the market expanded, but there was no advertising to promote brands. Grocers who purchased in bulk from the lowest bidders resisted any attempt at brand promotion. When their customers asked for "oatmeal," they sold it from the barrel. The profit they made depended on the price they got from the manufacturer bidding in an open market.

It was H. P. Crowell, then associated with the American Cereal Co., a predecessor of The Quaker Oats Co., who grasped the opportunities for advertising Quaker oats to the housewife. But such advertising presupposed the use of small packages in place of the community barrel. Mr. Crowell does not claim to be the first to employ packaging in the oatmeal business, but he had the vision to see its importance to the manufacturer. Consumer demand for the branded package for the first time established public good will for the manufacturer. The public preferred the package. It was clean; it was convenient; it assured definite quantity and quality for which the maker was responsible. No longer did the public want bulk meal from the barrel where mice played and tabby cats took their afternoon naps.

The opposition was bitter at first. There were challenges that the package raised the cost of the product, but the public continued to prefer the package. As demand grew, the "Quaker" had to go to court many times to protect himself from infringement of the popular trademark and brand, but he has survived all these attacks and is more steadfast on his new packages than ever before.

The history of the packaging process also is an in-



8—*Muffets, formerly in a horizontal package like the old one here and a hexagonal one not illustrated, are changed to this new appetite-appealing vertical carton.* 9—*Pettijohn's shows the Quaker replacing the old grizzly bear—and a square carton replacing a round one.* 10—*Scotch pearled barley takes on the happy countenance of the Quaker figure.* 11—*The individual packages for the variety combination are also in new family dress.*

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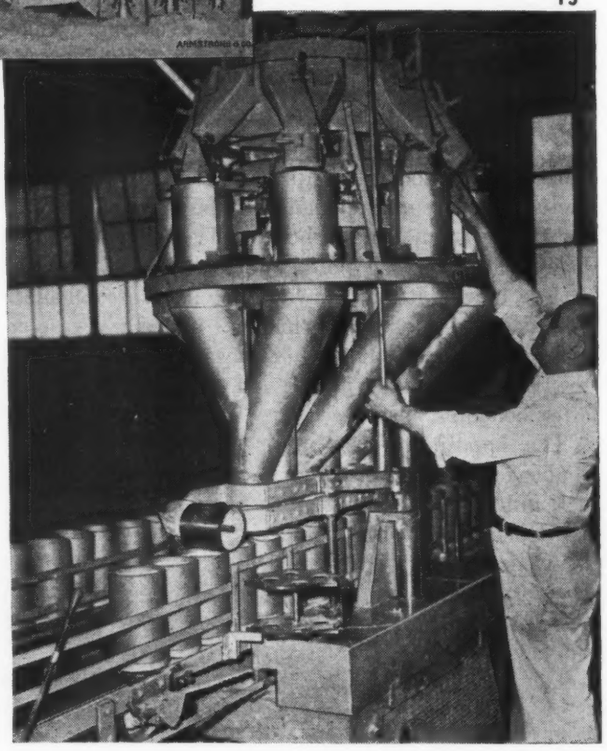

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12—*In 1893 all Quaker packaging was done by hand. This old print hangs in the office of Quaker's Vice-President, Donald B. Douglas. Note girls pasting labels. First machine packaging was introduced about 1895.* **13**—*Now automatic machines are used every step of the way. Weighing machines fill and discharge round tube packages.*

teresting part of this development. Today in the company's many modern plants throughout the United States and in foreign countries, the Quaker packages are turned out by the millions on completely automatic packaging lines. This is a far cry from the early days when the packages, although machine cut, had to be glued, filled, weighed and labeled by hand. The first machine which weighed portions and filled about 20 packages of oats a minute appeared about 1895. The New England Automatic Weighing Machine that weighed and filled at a speed of 30 per minute was introduced at the turn of the century. Later came the Hoepner Automatic Weighing Machine and the Pieser & Livingston machine which embodied improvements that provided for sealing the package after filling, although a separate operation was required at each end of the container.

J. L. Ferguson, founder of the machine company which now bears his name, was once an employee of The Quaker Oats Co. He developed a sealing machine in 1911 which sealed both ends of the packages in one operation.

The early packages for Quaker Oats were square. Chipboard was delivered in sheets from the manufacturers, then scored by machine and folded. A circular saw cut angles for the flaps. By 1910, a Saranac machine performed this work in one operation. The Staude machine, a device that automatically scored, slotted, folded and glued the package at the rate of 125 to 150 per minute, was introduced about 1914. In 1910, Giroud and Stover invented a machine to cover the package with its wrapper. This method was not too successful because the wrap, glued only at the ends, fitted the package loosely.

In 1917, Stokes & Smith introduced the semi-automatic wrapping machine which glued the reverse side of the wrap, providing the first tight wrap. The package was fed to the machine by hand. This machine was improved in 1922 for fully automatic wrapping at the rate of one a second. This tight wrap greatly aided protection against infestation.

The famous round package still in current usage for Quaker Oats was introduced about 1915. These are spiral wound paper tubes first produced by the Langston Tube Cutter and the Livingston tube cutter, while a Livingston punch press stamped out and flanged the caps.

Few companies have had broader effect on the use of the package for distribution of the world's commodities than The Quaker Oats Co. Its earliest forms of merchandising are also linked with the packages that were distributed as samples. As early as the 80's, New York and New England were sampled by the old Quaker Mill Co.

To open up the Western markets, special Quaker trains were run across the country, making stops in every village and hamlet, where a representative, dressed in Quaker garb, dispensed free samples of the cereals. The Quaker character appeared in magazines and replicas of the package appeared on billboards, barns and walls of buildings. Once the Quaker even appeared on the White Cliffs of Dover and it took an act of Parliament to get him and various other billboards off.

Quaker packages went on famous expeditions to the Arctic and Antartic. They've gone to the battle fronts of the world and in normal times are sold in almost every foreign country. There is scarcely a place on the globe where the kindly face of the Quaker is not indelibly identified with oatmeal.

The Quaker Oats Co. has also been a successful and consistent user of coupons and premiums of chinaware, crockery, baby spoons, cookers, double boilers, aluminum and all manner of household merchandise. The custom of putting actual pieces of chinaware or aluminum in the package also gained momentum and even today Quaker Mother's Oats with premium still have such items enclosed. (Mother's Oats and Quick Mother's Oats are identical to Quaker Oats and Quick Quaker Oats but are brands maintained in certain geogprahic areas because of their popularity for generations.) An idea of what this means to American potteries is indicated by the quantities of items purchased for premiums, sometimes as much as 155 carloads of china in a year.

Nor has the change in American breakfast habits diminished the popularity of the Quaker brand. Nearly 70% of those who prefer a hot cereal prefer oatmeal. To meet competition from quick-cooked and ready-to-eat cold cereals, however, the company, by improved processing, has offered Quick Oats—and also Instant Oats which are ready to eat after being stirred into boiling water.

Best known, perhaps, of Quaker's ready-to-eat cold cereals are Puffed Wheat and Puffed Rice Sparkies. Along with these is Muffets brand shredded wheat. To round out the merchandising picture are the macaronis, spaghettis and noodles as well as the corn and wheat products.

For all of these the happy, modern Quaker continues to carry on the long-established tradition of the packages he adorns.

CREDIT: *Design program, Jim Nash, New York.*

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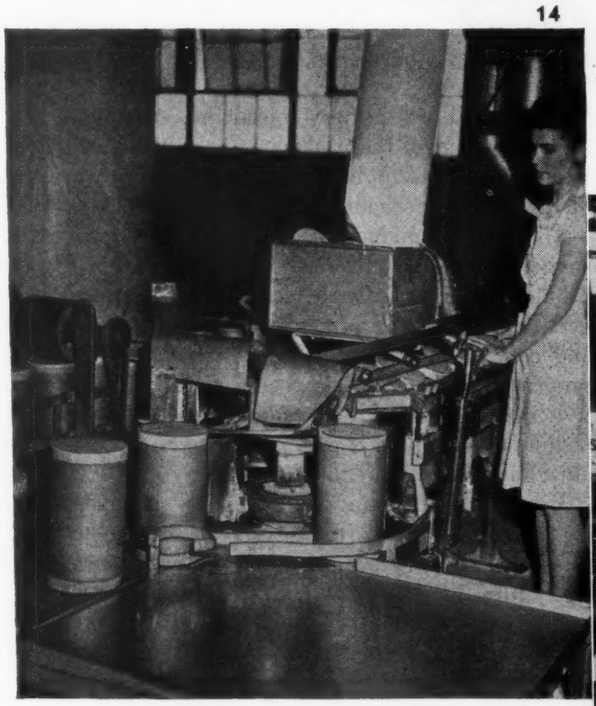

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14—Endless research has gone into the development of Quaker's modern, high-speed packaging production. By conveyor the tubes are carried to the top capper. 15—After carton has gone through the wrapping unit where label is secured, it enters a heating unit where wrapper is dried. Then each package is inspected before it goes to the packer. 16—Finished packages are loaded, 12 units to each shipping container, ready for distribution from company plants to America's millions.

POTTERY

. . . the appeal of hand craftmanship in an era of mass production

The appeal of a pottery container is nostalgic. Almost alone in the packaging field it carries on the tradition of ancient hand craftsmanship into a world of high-speed mechanical production.

Methods of making pottery have been improved by tunnel kilns which decrease the firing time. Establishment of ceramics as a technical study in the engineering departments of a score or more of universities and colleges has enlarged the knowledge of chemical properties of clays and glazes and improved the protective qualities of pottery containers. Assembly line technique has enabled greater production to meet almost any packaging requirements.

Jiggering and casting have supplanted hand-throwing methods, but even today you can still see here and there in a modern plant, a potter making an object on a hand-throwing wheel. "We shouldn't be making things this way," the owner of a modern plant will say, "but on small orders such as a few hundred pitchers for a chemical firm used for pouring acids, it's less expensive than making molds and jiggering the pitchers."

No matter what modern methods have been developed to increase production, there is still much handwork in making a pottery container. At current labor prices, such work is expensive.

Modern pottery plants are equipped to supply the packaging field with containers that have all the required protective and decorative features, but the user must be prepared to pay the price for the added eye appeal and special advantages a pottery container will give to his product.

One large producer of pottery containers cites an example that illustrates these economics. This firm has made more than 2 million pottery containers per year for a toiletries line during the past few years. These containers sell for about 10 cents apiece to the toiletries firm, which uses them as containers for a dollar item. This cosmetic house preferred the pottery containers for the merchandising advantage they gave the product and was even willing to stand additional overhead for applying closures by special semi-automatic methods. Only recently this firm, because of increasing production costs all along the line, decided to go into glass. The pottery company which supplies them had added considerable facilities to produce the quantities of containers required, but they are not sorry that the account has been taken away at existing prices. The same equipment used for making these small toiletries containers that sold for 10 cents apiece is now producing pottery vases for about 6 dollars a dozen and retail at twice that sum. At the moment, this pottery is out of the packaging container business completely. They don't say they won't get into it again, but for the time being, production facilities are profitably employed elsewhere.

This same condition does not maintain in other pottery firms, however. They are ready for new pottery container business and are only limited in what they can supply by a shortage of labor. Basic materials—clay and glazes—are plentiful, if they can get sufficient labor to turn them into containers.

These companies are equipped to produce containers suitable for a long list of products—foods, spices, cosmetics, cheeses, liqueurs, wines, honey, maple syrup, jams and marmalades, condiments. They also make a wide range of stoneware for laboratories, equipment manufacturers and the process industry.

Pottery is essential for certain chemicals. Such containers look like old fashioned vinegar jugs. Mercury and iodine resublimed, for example, have been packed in earthenware containers for years.

From a consumer packaging standpoint, the eye appeal and the re-use features of a pottery container are its greatest merchandising assets. Because of the nature of production, shapes follow classical lines which have grace and pleasing symmetry. Pottery containers do not have the uniformity characteristic of other types of containers and greater variations must be expected in dimensions and capacities. This very irregularity, however, provides the hand-made look so desirable in a specialty or gift container. Cost in relation to selling price of product varies greatly with

1 to 4—Pottery containers are especially adaptable for men's toiletry lines. House of Croydon makes use of cast jugs and jiggered shaving mugs. **5** *to* **7**—*Small jugs for packaging cooking and barbecue sauces with applied design in colors.* **8** *to* **10**—*Products such as maple syrup and honey can go right to the table packaged in colorful jugs with handles and pouring spouts.*

11—*Cast pottery is made from liquid or "slip" clay poured into molds. After sufficient drying, the molds are turned upside down and inside "slip" is poured out to form a cavity.* **12**—*Mug which has just been formed by "jiggering" method. Clay was placed in a split mold, then placed on the jigger wheel (right in photo) where a tool or "foot" shaped inside of container as wheel was turned.*

13

14

13—Seaforth men's toiletries—one of the leaders in large use of pottery containers. **14***—Shulton Old Spice containers for men illustrate use of colored design stamped on container and fired right into piece.*

the market for which the products are planned. If the pottery is used primarily for the added eye appeal on a gift item, the user can afford to allow a little more for a pottery container. On the other hand there are cheese jars of a purely functional nature which compare favorably in price with any other type of cheese container.

Each user's requirements must be studied individually to determine costs, colors, design and quantities that can be supplied. The makers of pottery containers will tell you whether your product can be profitably packaged in pottery and will advise the type of container that is suitable. Oftentimes a user will desire a container that is entirely impractical from a production standpoint or want color and applied decorations that will raise the cost unreasonably.

One company, for example, wanted a decorative treatment on the shoulder of a container which would have been extremely expensive and difficult to produce. The pottery company, however, was able to suggest a modification of the decoration which gave a pleasing effect but saved thousands of dollars on the job.

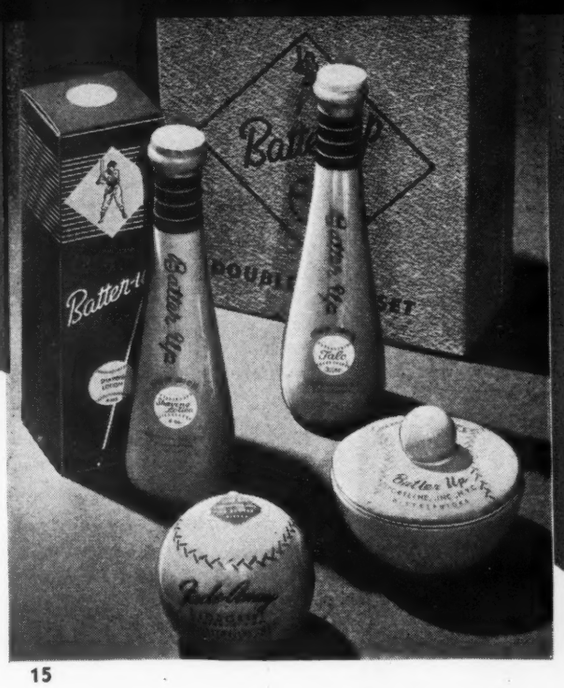
Modern pottery for containers is made by two methods. One is known as jiggering. By this method, the clay in plastic form is placed in split molds. The filled mold is then placed on a power-driven "jigger" wheel which runs at the rate of about 200 r.p.m. A tool or "foot" fits down into the inside of the mold and shapes the inside of the container as the wheel turns. The molds are made of plaster of Paris which absorbs moisture from the clay. The mold with the formed container in it is removed from the jigger wheel and allowed to dry a certain length of time until the formed object shrinks sufficiently from the mold to be removed. Mold marks must then be removed from each container by washing with a moist sponge. Each container must be handled separately in this manner. Then it is placed in a drying rack and taken to the drying room. After the glaze and decoration are applied it is ready for firing.

Cast pottery containers are made from liquid or "slip" clay which is poured into the molds. The molds are left a certain length of time until only sufficient drying has taken place so that when the molds are turned upside down the inside "slip" may be poured out to form the cavity of the container. This requires long practice by skilled workmen to determine just how long to let the slip set to get the required thickness, uniformity and capacity for the container. After further drying the container may be removed from the mold and mold marks removed by sponging. From this point procedure is the same as for jiggered objects.

By means of casting it is possible to obtain greater variety of shapes, particularly square-type bases which cannot be produced on the "jigger" wheel. An excellent example of such square forms are the "Rosemary" cologne jars, which are made by casting.

Production of one jigger wheel or of one caster may run from 500 to 1500 pieces, depending upon the shape and size. Total production may be any number of pieces depending on the amount of equipment a plant has. Most small-mouthed pottery containers are made by the casting method. Sometimes, however, they have been jiggered in two sections—top and bottom half—then fitted together. This is not always so successful, since the seaming may not provide as tight a container and may cause leakers.

The basic color of a container depends on the locality from which the clay is derived, on the composition of the body and the method of firing. Bright color effects are obtained by glazes. These may be transparent glazes or opaque glazes which are known in the trade as "mat" glazes. Glazes also give containers



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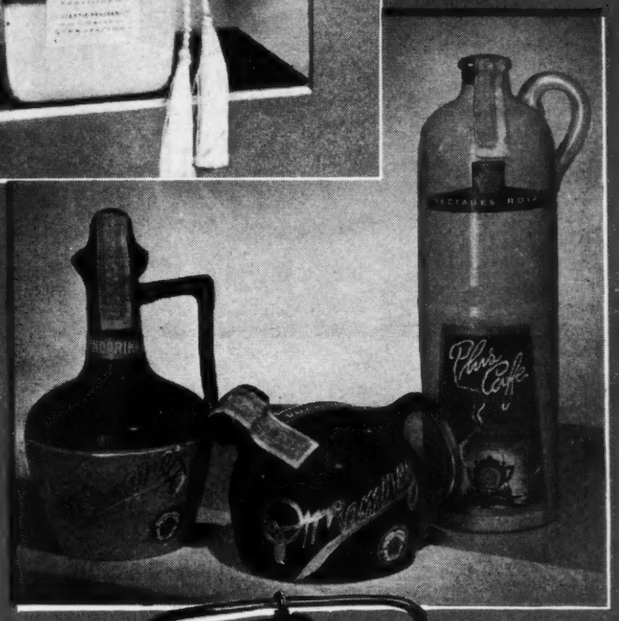

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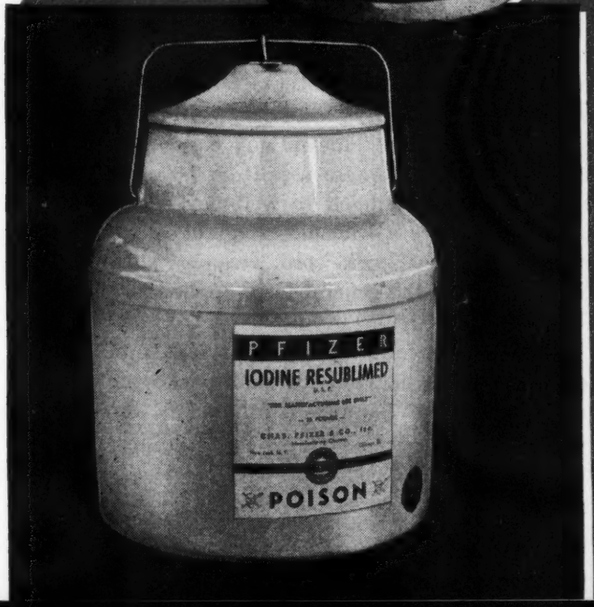

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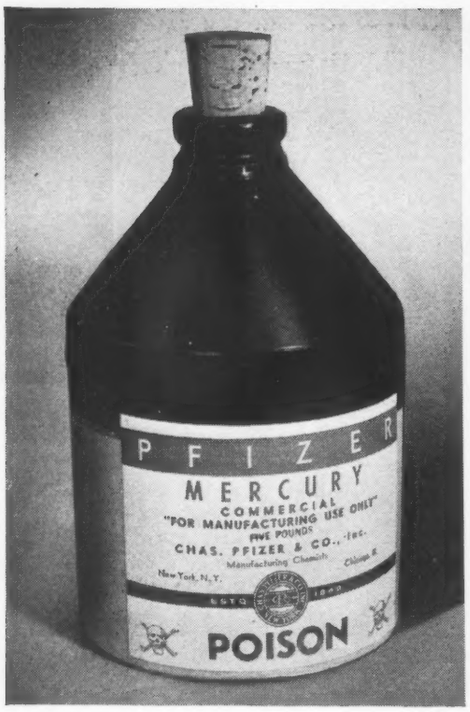
15—*Unusual private molds may be obtained in many shapes as long as they conform to manufacturing processes.* **16**—*Square-type containers can be made only by casting process. Rosemary cologne container is an example.* **17**—*Specialty liqueurs and cordials are effective in pottery.* **18**—*Press-clamp closure provides a secure lid for the familiar Kaukauna Klub cheese jar.* **19**—*Pottery is essential for packaging certain chemicals.*

added moisture protection. Color possibilities are determined by the degree of temperature at which the glazes may be fired. Certain brilliant colors cannot be maintained under high temperature firing. That is why, if you require an extremely vitreous, moistureproof container, you may have to select one with less vivid coloring.

Clay tends to be porous. Usually the higher it can be fired the more vitreous it becomes and thus a moistureproof or "tight" container is produced. The firing a clay will stand depends to a large extent on the composition of the clay. Good clays are found in too many parts of the United States to be enumerated. Firing up to 2,300 degrees usually assures a "tight" container. Clays are tested by staff chemists to determine what degree of firing they will endure. Above a certain degree, they are apt to melt and the container cannot hold its shape in the firing process.

Added color and decorative effects are obtained by a series of applied glazes and firings, but such added treatment adds to the cost of a container. Pictorial or trademark design is often provided by rubber stamping the design on the body before glazing. Such designs are thus fired right into the piece. Decorative effects are also obtained by producing the form of a flower or bird in the mold. Further effect may be obtained by covering this "embossed" pattern on the clay body with additional colors which are fired on.

For many packaging purposes, however, trade designs are put on by means of decalcomania after the containers are finished. This is a less expensive method



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21

20—*Mercury is among the chemicals usually packaged in pottery.* **21**—*An ordinary utility pottery jug, dressed up with label, often provides an interesting decorative container, as this one for bubble bath.*

and may be done by companies who specialize in this feature. Labels of paper or other materials also may be affixed and are the least expensive of any type.

Closures for pottery containers include: pottery lids and stoppers affixed with various types of adhesive tapes; patented metal-clamp lids like the Kaukauna cheese jars; corks; corks with plastic; corks with wood; corks with metal.

Overseals of viscose have been found to be essential in many cases and are good assurance against leakers. The lack of uniformity in the mouths of pottery containers, due to the inherent characteristics of manufacture, makes secondary closure protection worthy of careful study to get best results from the use of pottery for liquid products or those subject to evaporation.

There is sometimes confusion in the terminology of pottery. In general, the word "pottery" derived from the French *poterie* designates all objects made from clay. Some authorities classify earthenware and stoneware as terms that may be used almost interchangeably. Usually these two designate the heavier type of ware of less brilliant coloring, but of good vitreous quality. Sometimes these terms are applied to wares made from native local clay without "imports." In this case "import" means any clay foreign to the immediate vicinity where a pottery is located. Porcelain is usually confined to well-marked varieties of pottery that have a translucent quality. Ceramics is derived from the Greek word, *keramos*, meaning potter's clay and is the general term applied to the study of the art of pottery.

The modern manufacturer of pottery containers encouraged by the demand for such packaging has developed means to supply requirements for a wide variety of applications at a price that is feasible for each particular use. He is ready to serve both large and small customers at prices that are well within reach for each purpose. As the labor situation improves he will be able to supply the quantities required. He is also in a good position to supply the small user with a number of stock molds which may be given distinctive colors with the right glazes and may be attractively dressed up with labels or decals to give them individuality. These molds offer effective packaging mediums, particularly for small industries in the specialty field. When Mom has a fine old recipe for marmalade and decides to make and sell it in the special food department of the local department store—or when Aunt Susan in Vermont decides to package her maple syrup for the summer tourist trade—pottery may be the best package. These little industries are being given great impetus in many parts of the country. New York State, for example, is conducting a whole campaign to help women get started in small businesses and assisting them with ideas for packaging.

Special molds may be designed for large customers and the pottery manufacturer will give you the information you need about quantities for which a private mold is feasible.

Release of many industries from war work is putting them in a position to look for specialized fields of merchandising. The pottery container can provide an interesting sales tool for such projects.

ACKNOWLEDGMENT: *Information and photos—Zanesville Stoneware Co., Zanesville, Ohio; Eric M. Bauer, New York representative for Zanesville; Robinson Clay Products Co., New York City; Western Stoneware Co., Monmouth, Ill.; A. E. Hull Pottery Co., Crooksville, Ohio. Purinton Pottery Co., Wellesville, Ohio.*

Announcing the

MODERN PACKAGING MAGAZINE AWARDS

for Technical Study

During the current academic year, research students in a number of technical schools and universities will be conducting research projects directly connected with the problems of the packaging field, their interest stimulated by five awards of $300 each, to be given by this magazine and to be known as the MODERN PACKAGING MAGAZINE AWARDS.

The plan was presented to schools doing graduate work or offering courses leading to a degree of Bachelor of Science or higher. The work of the student is to be acceptable for thesis credit. Participating are the Polytechnic Institute of Brooklyn, University of California, Carnegie Institute of Technology, Cornell University, University of Illinois, Iowa State College, Massachusetts Institute of Technology, Massachusetts State College, University of Michigan, Stevens Institute of Technology and the University of Wisconsin.

Unique feature of the program is that the awards will be made on the basis of outlines submitted in advance by the contestants, which means that a student knows he is a winner before he goes to any expense or undertakes any elaborate program of research. The quality of the work will be maintained on a high plane through the fact that his findings must be acceptable to his school for thesis credit. By this plan, no additional burden is imposed on a student—under the conditions he would have to prepare a thesis anyway, and this project gives him additional incentive with a possibility of financial reward.

It is the hope of the sponsors of these awards that one result will be to acquaint educational institutions with the problems as well as the possibilities of the packaging field, and to attract technical personnel to packaging as an occupation. The plan should also serve to arouse even wider interest in the technicalities of packaging.

To insure breadth of scope, the judges chosen represent varied interests in packaging activity. Dr. L. W. Elder, of General Foods Corp., New York, is familiar with the technical aspects of packaging in the food field. Dr. E. C. Merrill, of the United-Rexall Drug Company, Boston, is well versed in the field of drugs, pharmaceuticals and toiletries. Dr. Julian Toulouse, of the Owens-Illinois Glass Company, Toledo, Ohio, is well known as a technician in the field of packaging materials and their fabrication. Ex-officio members of the Board of Judges are the Technical Editor (C. A. Southwick, Jr.) and the Editor-in-Chief of MODERN PACKAGING.

These judges have already prescribed the general scope of the area to be covered, and have formulated a list of suggested topics, and this list has been sent to the schools participating. The conditions require the school's approval of these subjects, or any of them that may be selected by a contestant, as appropriate material for thesis credit. The instructors may designate candidates in any manner conformable to their practices or regulations. Each candidate makes his own selection of a thesis subject from this list, or, at his option, with the approval of his instructor, he may submit any other subject which he may feel is eligible under the scope laid out by the judges.

On the basis of the proposed treatment as indicated in preliminary 500-word briefs, the judges will select the five which are most promising, and the awards will be given on delivery of the completed theses, which must be not later than the end of the current school year.

The awards now being offered by MODERN PACKAGING, it is believed, are the first that point directly and exclusively to packaging applications. Perhaps this plan will set a precedent for companies in the field to support an academic program that will permanently benefit packaging.

CHALLENGE BUTTER
GRADE AA BUTTER
THIS BUTTER IS WRAPPED IN A
New WAX-SEALED CONTAINER
FIRST QUALITY BUTTER
Other CHALLENGE PRODUCTS
ALL UP TO CHALLENGE HIGH QUALITY STANDARDS
CHEESE ☆ EGGS ☆ BANNER EVAPORATED MILK

1—The one-lb. butter package filled and heat-sealed, as used by the Challenge Creamery. It encloses the usual four 1/4-lb. parchment-wrapped prints of butter, and it is said to give better protection at a lower cost.

Wrap-carton . . . a new kind of package

A new simple, heat-sealable, waxed-paper container for butter and margarine marks the first significant packaging departure in this big-volume field in many years.

The package technically can be called neither a wrap nor a carton; it is both in one. It consists of a specially scored reinforcing strip laminated to a flexible outer printed sheet, the two combined forming a single flat sheet which folds into a carton type of package. Both components of the lamination are coated over-all with a special paraffin-base wax.

Used with a specially developed high-speed machine, which wraps and heat seals automatically, the package is said to offer important advantages in economy and convenience, while giving better protection and longer shelf life to these highly perishable products. So far as is known, this is the first successful heat-sealed package for butter ever used commercially.

A similar package for sliced bacon and other cured-meat products, packed by hand and pressure-sealed, was introduced nearly three years ago and is now being used by more than a dozen packing houses. Scored portions, in contact with each other, adhere closely, making the package relatively airtight. The package can be easily opened and, on being folded back, re-adheres.

Developed by C. D. Mullinix of the Western Waxed Paper Co. Division of Crown Zellerbach Corp., after 12 years of research, both containers—marketed under the trade name "Mullinix"—are being produced by Western Waxed Paper Co. and also have been licensed for manufacture by seven other paper manufacturers and converters.

The materials for the package—two weights of bleached sulphite paper, plus wax and printing inks—are relatively inexpensive and high-speed automatic production also contributes to economy. The completed wrap-cartons, in the flat, come off the machine at rates up to 3,000 a minute.

The butter package

The pioneer operation on butter has been conducted by the Challenge Cream and Butter Assn. of Los Angeles and San Francisco, which in the last six months has marketed almost 5,000,000 lbs. of butter in the new

Here is an actual sample of the carton that looks like a wrap—a new kind of package already being used for such products as butter, bacon and sausage. Outer sheet is printed prior to waxing and laminating. Wrapped by machine around a pound of butter and heat-sealed, this forms a firm, rigid, protective package with unusual qualities.

1

other CHALLENGE PRODUCTS

ALL UP TO CHALLENGE HIGH QUALITY STANDARDS

CHEESE ☆ EGGS ☆ BANNER EVAPORATED MILK

1

CHALLENGE BUTTER
ONE POUND
NET WEIGHT
GRADE AA BUTTER
CO-OPERATIVE CREAMERIES
© 1925 CHALLENGE CREAM & BUTTER ASSN
THIS BUTTER IS WRAPPED IN A New WAX-SEALED CONTAINER
designed to PRESERVE and PROTECT its freshness and delicious flavor

CHALLENGE FIRST QUALITY

1

GRADE AA BUTTER

CHURNED DAILY FROM FRESH PASTEURIZED CREAM

DISTRIBUTED BY CHALLENGE CREAM AND BUTTER ASSN., LOS ANGELES AND SAN FRANCISCO

1

BUTTER

TO OPEN: SIMPLY BREAK SEAL AND SLIDE BUTTER CUT AS NEEDED

BUTTER

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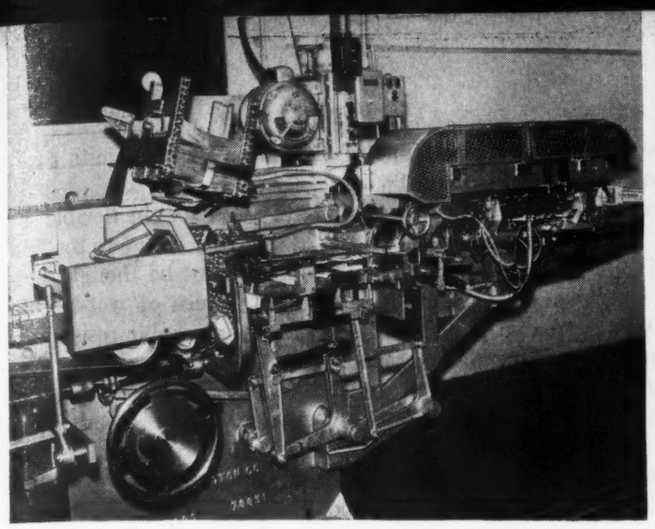
CHALLENGE FIRST

1



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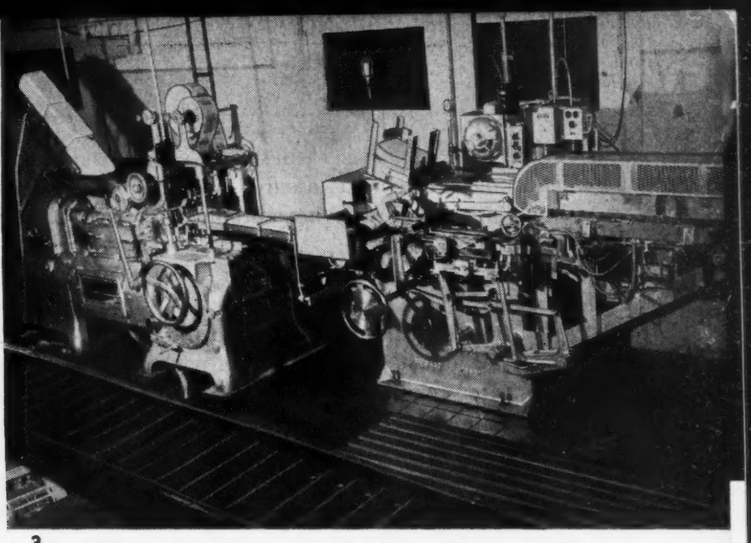

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2—Close-up of Redington machine specially devised to fill and seal Mullinix package. Parchment-wrapped 1/4-lbs. enter from left; flat laminated sheet is fed from magazine above, folded around butter and sealed, and packages emerge from machine on belt at right. **3**—*Showing how new machine works in tandem with conventional Mor-Pak machine (left), which cuts butter and wraps 1/4 lbs., feeding automatically into the Redington wrapper. These pictures show the machines in operation at the plant of the Challenge Creamery.*

package from its Los Angeles plant. One of the largest national manufacturers of oleomargarine is now using the wrap and another plans to get into large-volume use within the next few weeks.

Shipped flat to the creamery, the laminated sheets are mechanically fed through the special automatic wrapping machine which forms them snugly around the conventional four 1/4-lb. parchment-wrapped prints of butter, makes the end folds, and heat-seals side and ends.

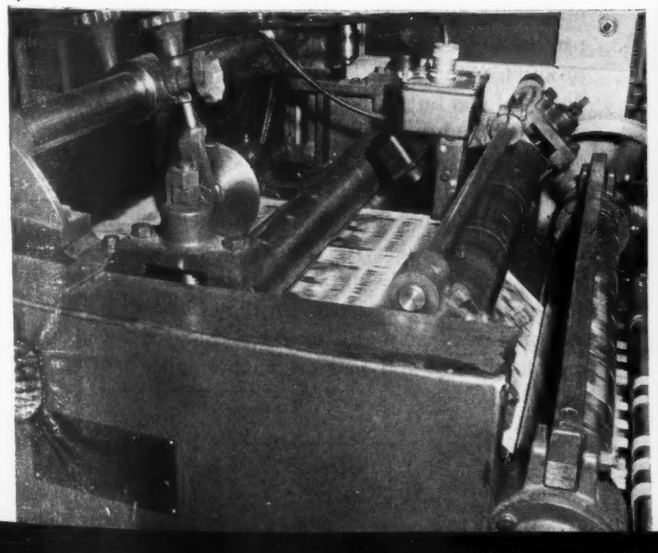
In addition to its simplicity and low cost, one of the principal advantages of the wrap for the butter producer is its low water-vapor loss. Butter in the conventional unsealed package "shrinks" in transit and in storage, and for this reason it has always been necessary for dairies to overweigh a pound package by at least 1/16 of an ounce to make sure that the package will contain the stated weight when it reaches the consumer. So successful has the new package been in preventing this loss of moisture that the creamery can now eliminate the 1/16-oz. overweight.

Moisture-retention properties of the wrap were put to a severe test by Challenge. A test quantity of 30 lbs. of butter was cut from the same churning. A few pounds were packed in the conventional manner, as a control, and the remainder was packaged with the Mullinix wrap. The test lot was sent out on a truck for four days straight, and the samples were weighed on return and placed in the cooler each night. This handling was designed to draw the utmost moisture out of the butter. The moisture loss of the Mullinix package was one-third less than that of the control package; furthermore, it was observed that the control cartons were "quite wet and weak" after five days of handling, while the Mullinix carton stood up very well.

While inside moisture cannot readily escape from the

4—A close-up of the cutting and scoring mechanism on the special machine at Western Waxed Paper Co. for production of the Mullinix wrap-carton. The electric-eye mechanism, which assures accuracy, is visible at upper right-center. **5**—*An over-all view of Mullinix machine (opposite side from Fig. 4). Two webs (one printed) are fed separately from rolls; are then run through hot wax, laminated, cooled, scored and cut—all automatically and with push-button control. Challenge butter job shown, running two wide, comes off at the rate of 1,000 wraps per minute, ready to be loaded into cartons and shipped to the user.*

4



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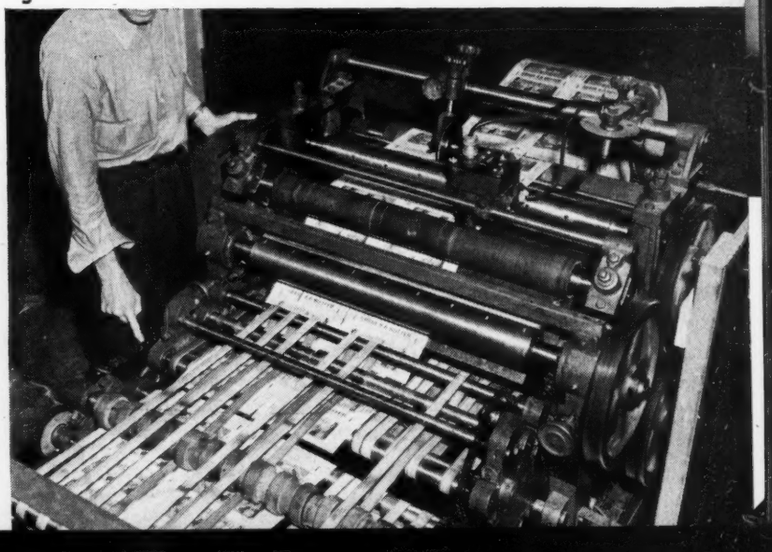


sealed package, neither can outside odors readily enter. Thus the creamery is assured of selling and the consumer assured of receiving a product of good taste, good texture and purity.

The tight pack which the wrap provides creates in the mind of the buyer the impression of a full package. The wrap is tightly sealed around the four 1/4-lb. prints of butter and it provides a rigid package by reason of the center reinforcing laminated sheet. The package can be colorfully printed. Printing inks are applied before the outer sheet of the wrap is wax coated.

A 70-lb. special bleached sulphite sheet and a lighter 40-lb. wet-strength special bleached sulphite outer sheet, coated with a special paraffin-base wax, are combined to form the butter and margarine wrap. Both sheets are of the same length, but the light-weight outer sheet is about 1 1/8 in. wider on either side of the wrap. Flexibility of the outer sheet permits ease of folding.

The use of a wet-strength stock for the flexible sheet is an interesting feature of the wrap. Due to the heavy waxing of the stock, this might not be thought necessary. However, one of the virtues of wet-strength-treated paper is that it gains remarkable resistance to scuffing and abrasive damage, even in the dry state. This helps to prevent physical damage to the package which might destroy its water-vapor protection. Such damage might otherwise occur by pressure of the edges of the rigid center strip against the folded sheet when the product is packaged, as well as in stacking and handling of the packages.

The outer sheet of material is first printed from continuous rolls, web fed into a four-color rotary press. A special machine built by the manufacturer does the entire job of coating, laminating, cutting and scoring in one automatic operation. The two materials are fed separately into the machine from continuous rolls. Each of the materials is passed through the hot wax dip and the two sheets, which come from the wax dip on a parallel line, are fed over a single roller. Pressure of the roller against the two sheets of hot wax-coated paper results in a lamination. The laminated sheet then proceeds through an ice bath to set the wax, then over the cutting and scoring mechanism. The printing press and the coating-laminating machine will soon be combined in a single unit.

Since a wax-coated paper tends to stretch, feeding of the paper into the cutting mechanism to assure cutting of the wraps at the proper point is controlled electronically through the use of an electric eye. Thus the printed design is always properly spaced on the wrap.

The material is fed into the special machine at a rate of 500 feet a minute and up to six designs across the web of the rolls can be handled. With one design across the web 500 wraps a minute are produced; as the designs across the web are increased, the production of wraps is increased accordingly.

6—Typical Mullinix bacon packages now in use. Sliced bacon is wrapped by streamlined hand operation and package seals itself; operation is said to be much faster than with usual transparent film. Packages are colorfully printed; some use color vignettes of bacon-and-eggs.

6

Experience of Challenge creamery

Heat-sealability is the feature of the wrap which first attracted the attention of the Challenge creamery. Butter is one of the most highly perishable of all food products and the company felt that with a sealed package users of the butter would be given a fresher, purer, and more flavorful product. Their laboratory tests proved to Challenge the advantages of the wrap from a product standpoint. It is claimed that the original flavor of the butter is retained, the original texture remains unchanged and salt crystals do not accumulate on the butter, because of the lack of water evaporation.

A factor which had not been considered in the development was the favorable consumer reaction to the tight pack afforded by the wrap. Inquiries revealed that housewives, being very conscious of weights and measures, felt reassured when they handled the tightly wrapped package and discovered that the package was completely full and had no wasted space between the

product and the container. In the usual folding carton, there is necessarily some space between the quarter-pound prints and the carton itself, and the space is increased when the butter shrinks through moisture loss. This space is minimized in the Mullinix wrap.

The cost of the wrap is understood to be substantially lower than that of the previously used folding carton. There are six processes, involving many hand operations, required in making a folding carton, any one of which, it is said, requires more time than the single process involved in the making of the wrap.

The development of a machine for packaging the butter was undertaken by the F. B. Redington Co., Chicago, with the understanding that it would be installed at the Challenge Co. plant in Los Angeles for a three months' trial run before acceptance. At the end of the trial period, Challenge adopted the process as standard for that plant.

All producers of the packaged butter in substantial quantities have automatic equipment for forming the 1/4-lb. prints, wrapping them and placing the four quarters in the 1-lb. folding carton. The new wrapping machine is designed to replace only the cartoning unit. It handles 68 of the regular parchment-wrapped 1/4-lb. of butter per minute as they come 34 per minute from each of the two rows of the Mor-Pak equipment on a conveyor belt connected to the wrapping machine. Installation of the new wrapping machine, therefore, does not necessarily change the creamery's existing packaging plans or machinery for forming the prints or parchment-wrapping them.

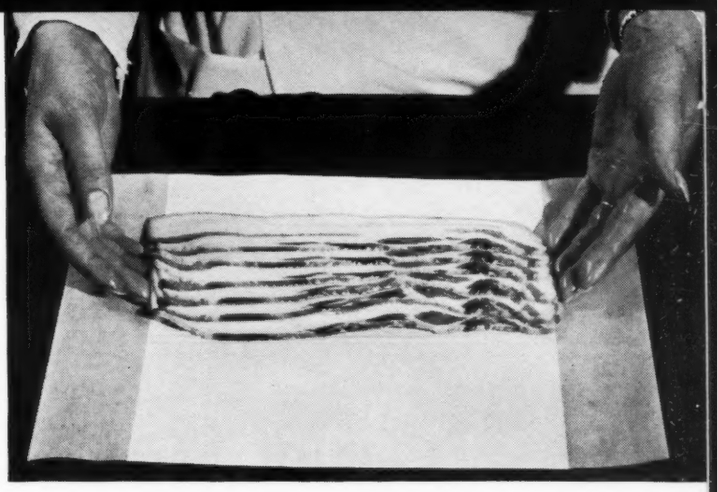
The wrappers are placed, printed side down, in a magazine above the mechanism at a point where the intake belt brings the butter prints into the machine. A special treatment of the wax is said to prevent blocking. The wrappers are pulled downward, one by one, from the magazine by three suction cups. When the wrapper is in position to receive the butter, four prints—two from each outlet of the Mor-Pak equipment—are forwarded on to the wrapper from the intake belt, and the wrapper is properly placed around the butter and the end folds made. The package is then carried upward into a heating and cooling conveyor, where it is heat-sealed and cooled, ready to come from the machine as a completed package via an outlet belt.

For bacon and sausage

The same machine used to make the butter wrapper is used in producing the wraps for processed meats. A single operation coats, laminates, cuts and scores the package. Placing of the sheets, however, is reversed. For the meat products, the heavier sheet is printed and is used on the outside, while the flexible one is used as the inner sheet. Also, the flexible sheet extends for a greater distance—about 2 in.—on either side of the rigid center sheet, to provide a greater lap than is required for the butter wrap.

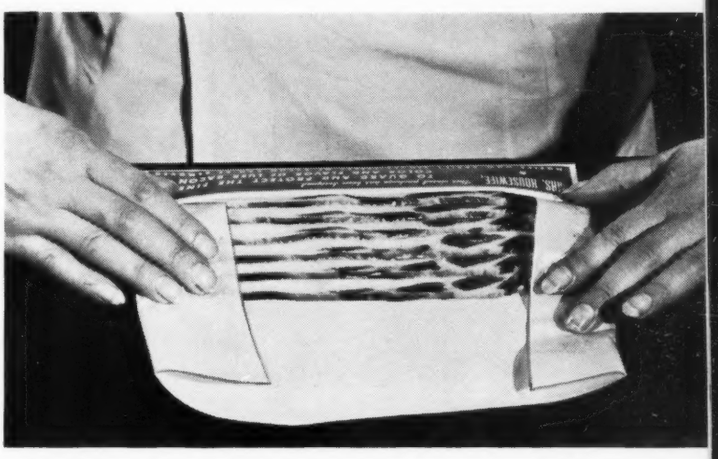
For the bacon wrap, the heavy special bleached sulphite sheet is of 50-lb. weight and the flexible sheet is a 25-lb. special greaseproof opaque glassine. For pork

7



7—Bacon is positioned on the flat just as it comes from the slicer. Note that lean meat is well displayed.

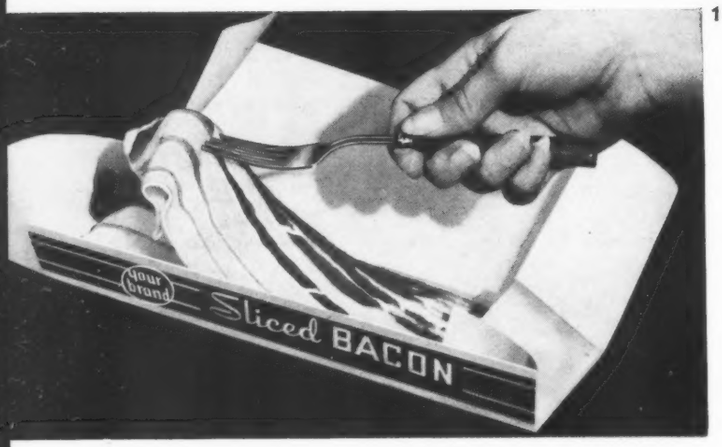
8



8—As hands are inverted from palms-up position above, two ends are folded in and the thumbs bring up the back flap. This flap carries the consumer message: "Mrs. Housewife: This closed package has been designed to guard and protect the fine color and flavor of Luer bacon. Notice how easily single slices can be removed."

9

9—With another motion of the thumbs the package is flipped over and is complete. The waxy surfaces seal themselves. The entire packaging operation shown in these illustrations is done in what seems to be a single motion.



10

11

COLOR PLATES, COURTESY WESTERN WAXED PAPER CO.

10 *and* **11**—*Convenience in use is a selling point for the bacon and sausage packages. Single servings may easily be removed without tearing the package, and when it is reclosed, the package quickly and handily reseals itself.*

link sausage, a 65-lb. bleached sulphite is combined with a 25-lb. glassine sheet. A special paraffin-base wax coating, similar to that used for the butter wrap, is used for both the bacon and sausage wraps.

Among the packers who altogether have marketed some 20,000,000 lbs. of bacon in this wrap to date are Armour & Co., Chicago; George A. Hormel & Co., Austin, Minn.; Hygrade Food Products Corp., New York; Rath Packing Co., Waterloo, Iowa; Luer Packing Co., Los Angeles; Carstens Packing Co., Tacoma, Wash.; Oscar Mayer & Co., Chicago; Tobin Packing Co., Fort Dodge, Iowa; and Dubuque Packing Co., Dubuque, Iowa.

Consideration was given to the housewife's attitude toward choosing bacon in an opaque package in contrast to the customary transparent wrap. Some packers originally felt that housewives might insist on seeing the bacon in order to determine the proportion of fat and lean. However, according to the package producers experience has shown that as long as the buyer has faith in the brand name she will readily accept bacon sight-unseen in a well-designed, convenient, attractive package. The top panel of some of the packages displays a four-color photographic reproduction of a plate of crisp, broiled bacon and eggs, and it is believed that this is actually more appetizing and sales-compelling than a view of the raw bacon. It is interesting to note that this follows the modern trend in many lines of food packaging to present illustrations of the product in cooked rather than raw form.

It is also argued for the new package that it presents the bacon more conveniently and more attractively on opening. While the transparent package shows the lean portions of the bacon to advantage on display, when opened it is reversed and the stack of slices shows almost entirely the fatty part. With the new wrap, the slices are so arranged that the lean part of the bacon dominates the picture when the package is opened; the bottom strip of bacon—the only one on which the fatty part might be visible—is covered from view by the first fold in the wrapping procedure.

Finally, the new wrapper protects both bacon and sausage from deterioration caused by light rays and is said to give them a longer shelf life. The effect of light on fatty pork is well known. Bacon exposed to light for only one day in a refrigerated showcase may start to turn gray in the fatty white part and continued exposure may cause rancidity which will make the product actually unsalable. In any case, it is said that bacon when removed from the new opaque wrapper will have a clean, fresh appearance and color.

Consumer tests

Consumer tests conducted by a large packer at St. Paul, Minn., are particularly interesting. Bacon, it must be remembered, was rationed at the time and supplies were scarce. For one week, at one retail outlet, those purchasing bacon in the new package were given a certificate which entitled them, one week later—and, of course, with a ration coupon—to purchase another $^1/_2$-lb. of bacon. The following week, stacks of the old and new packages were placed side by side in the refrigerated display cases. As the customers presented their certificates and ration coupons, they were asked which package they wanted. When inquiry was made, the customer was told that the two packages contained exactly the same product. Spotters stationed at the store, when the new wrap was selected, approached the customer to inquire why that selection was made and salesmen later visited the customer's home to obtain her reaction to the new package.

It was concluded, on the basis of the investigations, that there was no customer resistance to the new package and that it was acceptable to the trade. No reluctance on the part of the housewife to accept an opaque package was encountered.

Simple closure

The bacon and sausage packages are perhaps unique in that they make use of the product itself to effect a simple closure of the package. The warmth of the meat effects an adhesion. The waxed surface of the wrap is simply pressed down on the warm, fatty surface of the

meat and an adhesion results which holds the package together. So simple is the hand-wrapping operation with this package that no machine has yet been devised which will do it more economically. Packers report that it has reduced packaging time by 25%. Rigidity of the wrap and its non-blocking characteristics permit faster handling. The three-step wrapping procedure is in reality a single continuous operation.

The wrapper, in position to receive the bacon, is laid flat with the printed side down. As the bacon comes off the slicing machine, it is placed in the center scored section of the wrap. The bottom end of the wrap, about $1^1/_2$ in. in width, is folded over at the score line; then with both hands the two ends of the thin flexible sheet extending beyond the rigid center sheet of paper are folded over, and finally the package is flipped over at the remaining score line so that the face of the package is up. The bacon comes in contact with the folds of the wrap and the fat of the bacon adheres to the wax of the wrapper. Upon cooling, an effective seal has been formed by reason of the weight of the bacon as the package is left in its last wrapping position, with the sealing flap underneath. This contrasts with the many motions required for pressing down and tucking in a cellophane wrap and the awkwardness of removing a single sheet of film from a stack. This, also, has always been a hand operation.

The 25% saving in wrapping time and labor is said largely to offset the higher cost of this wrap over the previously used single-sheet transparent wrap. In the final analysis, any higher cost is believed to be more than made up by sales appeal and better protection of the product.

The convenience to the housewife in using bacon wrapped in a rigid package is claimed to be one of the main selling points. From the viewpoint of the retailer, a rigid package is more convenient to handle, easier to stack in a refrigerated showcase and creates a more attractive display.

The wrapping procedure for the pork link sausage is identical with that for the bacon package, except for the actual arrangement of the links, which are placed in two layers of approximately eight links each. For this product, however, the packer has the added advantage of a lower-priced package to start with, since the formerly used packaging method consisted of a parchment wrapper and carton combination.

Future developments

Experiments are now under way to determine the applicability of various films and aluminum foils as alternate materials for the present sulphite and glassine flexible sheets. Coatings other than the currently used paraffin wax are being tried with a view to adding greater beauty to the present attractiveness of the wrap. In addition to the letterpress method of printing, the manufacturer intends to go forward into the use of gravure and offset printing.

A new feature (not shown on the tipped-in sample) is the recent perfection of a tear-tape opening device at one end of the butter wrap. This will add to convenience in use by permitting easy opening of the package without otherwise changing its structure. Each $^1/_4$-lb. print will be easily removable and the original contour of the package will be retained.

New machinery on way

Further machinery developments are also underway. A machine now being completed by the manufacturer of the wrap is designed to combine the printing with the waxing, laminating, cutting and scoring process, in one operation. The outer material to be printed will be web fed from rolls into the cylinders of a six-color rotary press mechanism located above the machinery for the combined production process. With the use of quick-drying inks, the printed sheets can go forward in a continuous operation directly from the rotary press through the waxing, laminating, cutting and scoring procedure. The manufacturer hopes to have this machine operating within a matter of weeks.

Consideration has been given to the development of a machine to perform the wrapping operation for the sliced bacon package.

Since the rate of operation of such an automatic wrapping machine would be limited by the time required for the hand operation of weighing the bacon, the use of a wrapping machine for this product would not result in any appreciable time saving beyond the present hand operation. However, should a weighing machine for bacon be developed, a wrapping machine would be feasible, since the wrap itself is adaptable to mechanical handling.

CREDITS: *"Mullinix" wrap patented by Crown Zellerbach Corp., Western Waxed Paper Co. Division, Los Angeles. Licensees: Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.; Riegel Paper Corp., New York; Central Waxed Paper Co., Chicago; Waxide Paper Co., St. Louis and Kansas City; Pollock Paper & Box Co., Dallas; Dixie Wax Paper Co., Dallas, and McDonald Printing Co., Cincinnati. Wrapping machine for butter wrap by F. B. Redington Co., Chicago.*

12—*Close-up of link sausage package, which is handled just like the bacon wrap. Links are arranged in two layers of approximately eight links each. Several packers are now using this one-sheet package in place of the usual parchment wrapper and folding-carton combination.*

12

Three products—three colors

One of the oldest brand names in textiles—Julius Kayser & Co.—is being reflected in newly designed packages which achieve distinction through the use of soft pastels. Illustrated are three of the four redesigned set-up boxes soon to appear on retail shelves.

Up to the present time Kayser has always used the same design and the same color scheme for all of its products—gloves, hosiery, lingerie and knit underwear. The new boxes still maintain the tradition of similar design but with a different background color for each item in the line. Pastel shades of pink are used for hosiery, blue for underthings and yellow for gloves. The trademark appears on a gray "calling card" at the lower right-hand corner of each box and an over-all threadlike scroll motif, faintly visible on the center box in the photograph, softens the background.

The new packages are primarily for store-shelf use only and the choice of different colors is intended to help the salesperson select the right item as well as to blend with modern store fixtures. For these reasons the colors finally selected are the result of considerable study and long experimentation.

CREDIT: *Box wrap, Oberly & Newell Lithograph Corp., N. Y. C.*

DESIGN

Beautified meats

Three essentials in label design were given special attention in designing the new packages for Stahl-Meyer's four meat spreads. First, readability of product name was considered most important. Brand name was given second attention and third, use of pictorial illustration to promote the many uses for the meats in hearty sandwiches and salads as well as for appetizers.

Red, white and blue were the colors chosen for these spreads not only because of their excellent visibility and attractive contrast but also to keep them in the same family with other Stahl-Meyer packages. At present three cans use paper labels and the Liverwurst carries a lithographed label.

An unusual feature of these containers is their size. Competitive spreads are packed in 2-, 3- or 4-oz. tins while the Stahl-Meyer pack is 6 oz. The company feels that the smaller sizes are obviously for dainty tidbits—canapes, hors d'ouvres. The 6-oz. tin is supposed to convey the thought that these spreads are equally good in sandwiches, salad dishes and in main meals. The larger size, in addition, provides the retailer with a convenient container for effective window display.

CREDIT: *Cans, American Can Co., N. Y. C.*

(Page 144)

Cartons in kodachrome

LeMaur Products, Inc., Minneapolis, Minn., makers of Modart Fluff Shampoo, present three shampoo fragrances in cartons that can leave no doubt as to which is which. One of the few cosmetic containers to use full-color reproductions from Kodachromes as the dominant design theme, they were created to impress the consumer vividly with the three fragrances—Gardenia, Apple Blossom and Pine.

The lithographed folding cartons are run in 133 screen on a clay-coated board with product name appearing in reverse on an undulating band near the bottom. A black diamond on the top of the box also carries product and brand name in larger type while the bottom, free from the colored design, gives how-to-use directions.

The package strikes an unusual note when displayed among other cosmetics since most containers in these groups depend purely on design to attract. Modart, with its realistic approach is different and, at the same time, is intended to look rich enough to put it in the quality class.

The product will be promoted through newspapers, magazines, radio and dealer helps in the form of counter and widow displays.

CREDIT: *Lithography, American Coating Mills, Inc., Elkhart, Ind.*

HISTORIES

Deodorant powder boxes

Purplish blue combined with a pale rose emphasizes the delicacy of the design which has recently been adopted for Spiro, a deodorant powder made by the Spiro Powder Co., Inc., Buffalo, N.Y. Formerly the packages were a dark blue, scattered with cherries and illustrated the figure of a woman "who did not grow old gracefully"—had little sales appeal.

The new packages undoubtedly have sales appeal. The colors are soft and pleasing; the design is simple but attractive; the lettering modern, legible. The sifter-top box is an addition to the line. Formerly only the round and the square packages were used.

The fibre can with metal bottom and plastic top carries an adaptation of the tight-wrap design used on the other two packages with one exception—the illustration of the powder puff which appears just above the "o" in Spiro. This, on the two regulation packages, is an important part of the merchandising plan. According to the company, the illustration of the puff, calling attention to the actual puff in the package, adds sales appeal as competitors are packaged without it.

CREDITS: *Design, Ben Nash, New York City. Boxes, F. N. Burt Co., Buffalo, N. Y.*

(*Page 145*)

Fashion-cologne tie-in

Junior Guild Frocks, Inc., Chicago, has introduced a cologne which ties in not only with the youthful ideas of the frocks but reproduces the actual dress print on the box cover.

"Mine Alone" cologne advertisements, as shown in the background of the photograph, appear in leading trade and fashion magazines along with a Junior Guild Original. The copy ties the two together inseparably in the teenager's mind.

The package design for the new product has been kept just as simple as all the young moderns demand for their cosmetics. The plain round bottle is topped with a gold-colored metal screw cap and the rather sophisticated type face chosen for the product name is applied directly to the bottle.

The base of the box repeats the dull gold accents and has a die-cut platform into which the bottle fits. The base is lined with white satin. The only splash of color is in the box top. It is covered with cerise satin with the all-over print of the dress repeated in gold. A narrow gold edging around the top of the box adds the last elegant touch.

CREDITS: *Bottles, W. Braun Co., Chicago, Ill. Boxes, W. C. Ritchie & Co., Chicago, Ill.*

DESIGN

Boxed power houses

A new set of toys is being issued by the Kelmar Corp., Milwaukee, Wis., and advertised for boys from 6 to 60. The first kit to reach the retail market is a "Pow'r House," packaged in a set-up box with a die-cut platform to hold all the pieces of an electric motor which, when assembled, will power the future toys in the line.

The box top cover design is a brilliantly colored drawing of the power house at a large dam. The box itself, measuring 12 in. by 16 in. by 1¾ in., is made of strong chipboard to withstand rough handling.

In addition to the pieces which go to make up the motor, the set contains a transformer plus a 40-page instruction booklet written in simple language the average boy can understand. A copyrighted character, "Watts'n Volts," bends and unbends his motor torso to help with the instructions. Inside cover illustrates diagrams for the set-up.

Soon to follow "Pow'r House" is an all-steel ferris wheel. Additional kits will contain a merry-go-round, a calliope, an airplane whirl and other carnival items.

CREDITS: *Boxes and platforms, Molitor Box Co., Milwaukee, Wis., and Van Dyke Baird Co., Milwaukee, Wis.*

(*Page 146*)

Cellophaned coffee

For restaurant and drugstore use Joseph Martinson & Co. has introduced a convenient dispensing carton package containing 24 cellophane bags of coffee which, it is said, can be produced very economically in quantities.

A 450 MST cellophane is printed with an all-over pattern and fabricated on an automatic packaging machine. Each package contains an accurate amount of coffee—enough to make 12 cups which is the amount an average restaurant coffee-maker holds.

The well-designed paperboard dispenser holds 24 of the packages and has a cleverly slotted opening which permits one package to be withdrawn at a time. The dispensing carton invites the restaurateur to place it near the coffee maker which is usually kept in full view of the customers. In this way, Martinson's gains a bit of additional display advertising.

The cellophane package is printed in white letters outlined with blue and by spacing the design carefully two brand names always appear on the face of each of the transparent packets.

CREDITS: *Cellophane package, Milprint, Inc., Milwaukee, Wis. Transwrap machine, Stokes & Smith Co., Philadelphia.*

HISTORIES

Chuck boxes of condiments

The senior Chuck Box (above) made its debut during the past Christmas season at the Neiman Marcus Co., Dallas. Its immediate success was so startling that its producers, the Texas Brands Distributing Co., decided to bring out a junior size of the same idea.

In a nutshell, the Chuck Box contains 13 selected spices and condiments of particular interest to the outdoor cook along with a wood-grain covered cookbook.

The senior size was copied from the old chuck wagon box of the prairie schooner days and is decorated with Western cactus and cattle brand designs. The rope handle, burnished metal hinges and studdings carry out the rustic effect of the antiqued wooden container.

The new junior size contains eight of the items in the senior. It is made of wood to resemble a chest and is suggested as a re-use container around the house.

Special corrugated cartons have been designed for the chuck boxes which have a definite "gifty" look. A wood grain effect and straps with buckles give the recipient a taste of what is to be found inside.

Refills for both of the boxes are available at appointed dealers and both containers are specially promoted as interesting gift items.

(*Page 147*)

Better base plate . . . for better food cans

*by B. S. Clark and K. W. Brighton**

Few developments in the canning industry parallel in importance the development of corrosion-resistant tinplate. This product of long-time investigation of corrosion resistance has made possible the canning of new products and has materially extended the shelf life of all canned foods. Increasing the shelf life is probably felt to the greatest extent in the packing of the more corrosive food products. The use of cans made of corrosion-resistant plate has changed the canning of these foods from a gamble to a stable business. The canner now knows the approximate shelf life that may be expected from the containers and so can plan an orderly distribution of his packs without corrosion losses.

Technically, few other developments have proceeded in as orderly or scientific a fashion as the development of this type of tinplate. None has effected a greater degree of improvement in any other material utilized in the manufacture of cans. It is, therefore, appropriate to present in some detail the story of the achievements in this field in their proper chronological relationships.

During the wartime shortage of tin we have been much concerned with the weight of coatings on can plate and have been less aware of improvements in the base plate itself—equally important in lengthening the shelf life of corrosive food products. While no figures are available, it is obvious that shelf life of canned foods was drastically shortened by rapid wartime turnover. As distribution returns to normal and shelf life again becomes a vital factor, this review of the development of corrosion-resistant baseplate becomes especially timely and significant.

The presentation of the study of corrosion-resistant tinplate at this time does not mean that the improvement of tinplate is complete and that further progress will not be made. On the contrary, research work on this subject is continuous and new research tools in prospect should bring further upgrading in tinplate quality during the next decade.

Early production of tinplate

Legend has it that tin-coated iron—the forerunner of tinplate—was discovered in Bohemia during the 13th Century by a fugitive English tin miner. However accurate this tale may be, it is known that the use of "vessels of tin" was patented in 1810 shortly after Appert worked out the principles of canning. The expanding canning industry required more and more tinplate and a number of tinplate mills were established throughout Great Britain. In time the industry became consolidated, and most of the mills were located in South Wales.

In the United States several abortive attempts were made to establish a tinplate industry which could compete with the Welsh mills. However, in October 1890, the McKinley Tariff Bill placed a duty of 2.2 cents per pound on imported tinplate. This made the domestic manufacture of tinplate sufficiently attractive and the industry was soon firmly established.

It is interesting to note the parallel effect which the import duty had on the development of the tinplate industry in this country and in Great Britain. Almost 200 years previously the British had been unable to compete with German plate. Then an import duty was imposed in 1706 and the British industry took permanent root.

After the creation of the tariff wall the growth of the American tinplate industry was rapid, and by 1912 the importation of plate from Great Britain had ceased. Since World War I the United States has been both the leading producer and the leading consumer of tinplate. From the production standpoint there was a slow but steady evolution in the procedure for making tinplate. Developmental work was concentrated on means of increasing production. The principal changes of the era—from wrought iron to Bessemer and then to open-hearth steel, from hand hammering to mechanical rolling of the sheets, from hand rubbing of the surface of the sheets with sandstone to remove scale to acid pickling, from hand dipping of the sheets to mechanically conveying through the tin pot, from polishing each sheet by hand with rags to the automatic cleaning machine—all increased production.

Tinplate was just tinplate

While the first 20 years of the current century witnessed further progress in making tinplate, and a great advance in can-making machinery and equipment, little or nothing was done toward improving the corrosion resistance of the hot-rolled plate of the period. True, the famous "tinplate investigation" of 1915–19, in which the American Can Co. was a collaborator, took place in this period and brought about a better understanding of the effect of the weight of tin coating on certain properties of the plate. However, tinplate manufacture was regarded as an art, and in contemporary

* Research Division, American Can Co., Maywood, Ill.

thinking, the tin can had definite circumscribed limitations as to its use beyond which one could not go. Can manufacturers did not look forward with much hope toward increasing the usefulness of tin containers for corrosive products such as red sour cherries, prunes, sauerkraut and pickles. Packers of these products used cans strictly at their own risk with respect to corrosion losses.

In retrospect, this philosophy with respect to the corrosion resistance of tinplate is not difficult to understand. Problems certainly more obvious and apparently more urgent presented themselves for solution, among them being the establishment of adequate heat processes for a wide variety of products, development of better end-sealing materials and improvement of can double seams. Often can failure was associated with one or more of these factors. Where inside can corrosion was obviously the cause of failure and the above factors or faulty packing practice did not appear to be involved, the loss had to be written off as due to the inherent weaknesses of tinplate.

California peach experience

Not until about 1929 was attention seriously directed toward improving the corrosion resistance of tinplate. For some years California peaches had comprised one of the largest fruit packs; also for many years this product had been successfully packed in hot-reduced tinplate cans. However, heavy losses due to the early formation of hydrogen springers were abruptly encountered in the 1929, and later in the 1930, packs.

As soon as the first hydrogen springers were encountered, investigation was started to determine the cause. The preparation of the fruit, the can double seams, the compound and the other points normally considered important in springer losses, were all checked without finding anything faulty. The searchlight was next turned on the plate. There was some hesitancy to consider the plate as a source of the trouble since a large percentage of the losses were in cans from one factory. However, as the first step, a statistical study was made of the receipts of plate from the several mills at the various factories. Information on the early springers occurring in cans from each of the factories was also accumulated. When the springer data were plotted against the receipts of plate from the various mills, it was noted that the factory which had produced most of the cans which became springers had obtained most of the plate from one mill. The spotlight was therefore focused on the product of that mill.

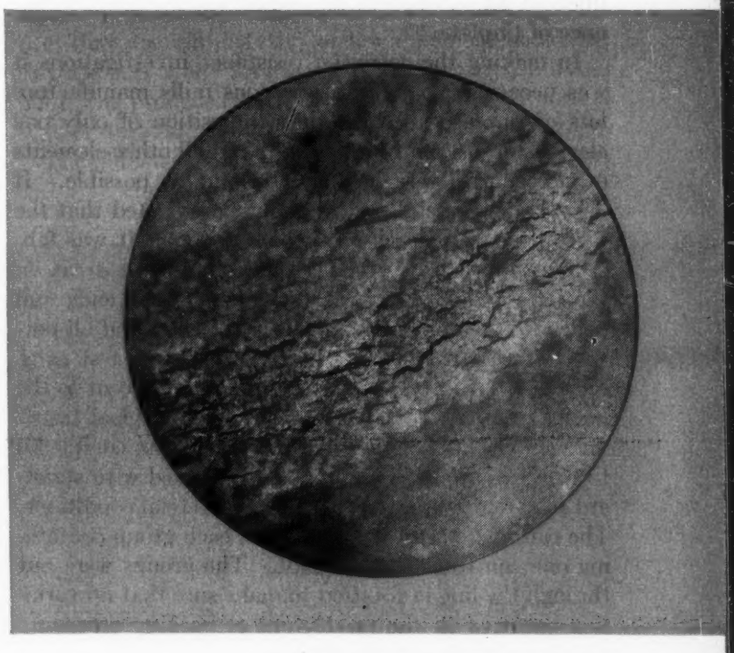
In the meantime, chemical and metallurgical analyses were made to determine the difference between the cans which gave normal shelf life and those which became early springers. It was finally found that when excess silicon was present under certain conditions, intergranular fracture occurred in the steel base at drawn sections of the can, such as the side seam, and profile and countersink (Fig. 2). At these fractures the tin coating ruptured and exposed the steel to the corrosive attack of the fruit acids. The tin coating no

1

PHOTOS 1, 2, 4, AND 5, COURTESY AMERICAN CAN CO.

1—Research to develop better corrosion-resistant tinplate is a long and continuing process with the can companies. Photo shows periodic examination of cans in storage racks to determine resistance to hydrogen springing.

2



2—Photomicrograph of the bent surface of tinplate made from silicon killed steel, detinned to show the severe cracking. This type of plate is no longer used in cans.

3

3—*Recording results of the hydrogen evolution tests in the laboratory of the Carnegie-Illinois Steel Corp.*

PHOTOS 3 AND 4, COURTESY CARNEGIE-ILLINOIS STEEL CORP

longer preformed its normal function of electrochemically protecting the steel against corrosion and early springers occurred. Thus, in graphic fashion, was demonstrated the influence of the chemical composition of the base steel on the corrosion resistance of tinplate.

First chemical specifications for tinplate

The immediate result of this costly peach springer experience was the realization that the manufacture of tinplate would have to be controlled to meet definite specifications. Before these specifications could be written, experimental packs had to be made to evaluate the factors influencing corrosion resistance. These fundamental pioneer studies established the importance of the chemical composition of the base steel and have influenced all subsequent studies on the corrosion resistance of tinplate.

In making the corrosion resistance investigations it was necessary to have the various mills manufacture lots of tinplate in which the composition of only one element or procedure was varied and all other elements or procedures were held as constant as possible. If chemical and metallurgical analyses indicated that the plate possessed the desired characteristics, it was fabricated into cans. The selection of the test areas on the sheets was carefully controlled so that ends and bodies were obtained from the same sheet, and all portions of the sheets were represented in the test cans. Samples were also selected immediately adjacent to the bodies and ends for chemical and metallurgical tests.

After the manufacture of the cans was completed they were shipped to canneries and packed with standard food products under normal commercial conditions. The cans were arranged in groups, each group containing one can from each test lot. The groups were put through the line in rotation to make sure that no variation occurred in the production or packing procedure which could influence the results.

At the completion of the canning process the cans were returned to the laboratory, where half of the cans from each lot were stored at 98 deg. F. and the remainder at room temperature. Each can was examined periodically and the time recorded for that particular can to become a hydrogen springer or a perforation (Fig. 1).

When the results of the experimental packs were summarized it was found that the chemical composition of the base steel was the largest factor influencing the corrosion resistance of tinplate. However, another significant aspect revealed by the studies was the variation in action of the several food products tested. It had been known for a long time that the various types of products had different shelf lives in cans. Now it was realized that the products must be classified according to corrosiveness before chemical specifications for tinplate could be written. Accordingly, the food products were divided into three classes.

The first class comprised the most corrosive products, the berries, red sour cherries, Royal Anne cherries, apricots, prunes, pickles, sauerkraut, etc. The second class contained the moderately corrosive foods such as peaches, pears, pineapple, grapefruit, etc. All other products such as peas, corn, tomatoes, green beans, meats, fish, etc., were placed in Class Three.

The first specifications for tinplate took cognizance of the three classes of food products. The specifications for the plate for the most corrosive food products, Class I items, regulated the maximum amounts of carbon, manganese, phosphorus, silicon, sulphur and copper in the steel with particular restrictions on silicon and phosphorus contents. For Class II products the specifications were the same as for Class I except that a greater percentage of phosphorus was permitted. The specifications for the Class III products allowed a greater percentage of both phosphorus and silicon and also permitted the use of copper bearing scrap in the manufacture of the steel. It may be said that most of the plate produced in the days before the effect of chemical composition of the steel on the corrosion resistance of the plate was known would pass the specifications for Class III products. Now, however, the use of such plate was confined to the least corrosive products which normally had a long shelf life.

The issuing of these specifications for tinplate was a milestone in the progress toward better tinplate. It marked the first step to obtain plate that would provide longer shelf life.

The hydrogen evolution test

The second concept born of the California peach episode was the idea of conducting an accelerated pretesting of the plate before packing to determine what the performance of that particular lot of plate would be. The effect of base steel composition on the corrosion resistance was becoming known, but it was realized that there were other factors such as physical characteristics of the base steel, tin coating weight, tin coating distribution, etc., that would influence the corrosion resistance of the plate. Tests could possibly be devised to evaluate each variable individually, but this would be expensive and time consuming. If a test could be developed which would integrate all the factors influencing corrosion resistance of the plate, a long stride forward would be taken.

The selection of a rapid test that would accurately predict the performance of plate which might be exposed to food products for years was a very difficult job. Dozens of scientific papers have been written discouraging accelerated testing and describing the pitfalls that can be encountered in using the results of accelerated tests. However, the need for the test outweighed the possible deterrents and work continued on the problem until it was solved.

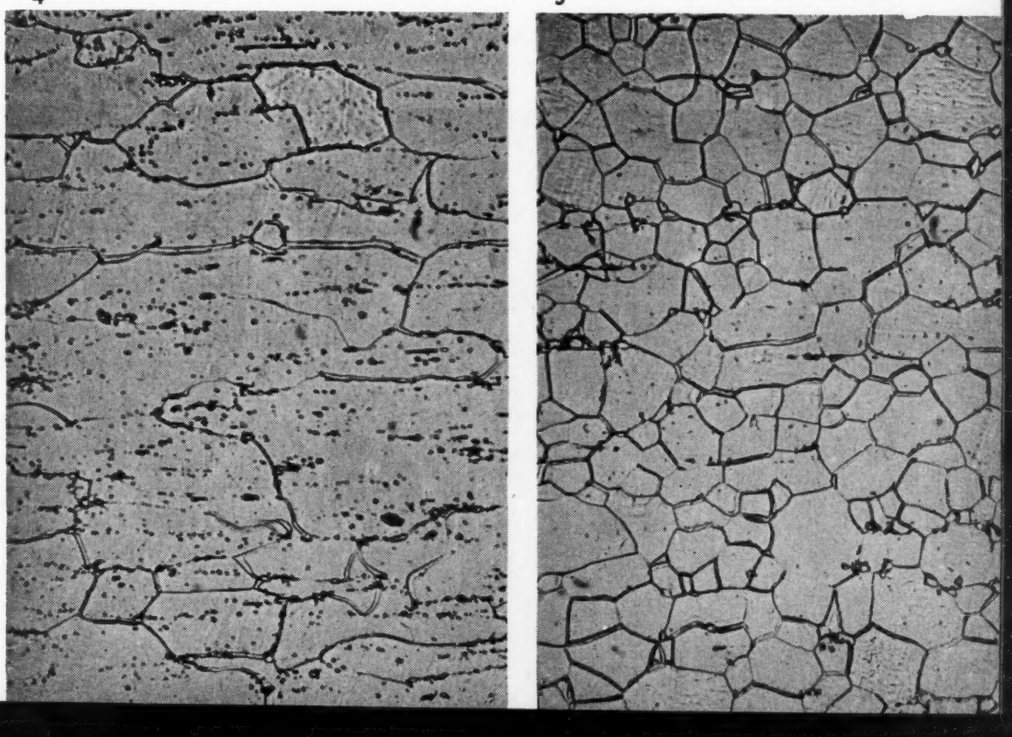
The accelerated test for predicting the corrosion resistance of plate which was finally perfected is now known as the hydrogen evolution test. In this test a drawn tinplate specimen is exposed under very closely controlled conditions to the action of dilute hydrochloric acid. The time for 5 milliliters of hydrogen to be evolved is measured (Fig. 3). Comprehensive packing tests on a large number of lots of plate in which hydrogen evolution specimens were chosen immediately adjacent to the bodies and ends for test cans, have shown that, in general, a good correlation exists between the service life of the plate in plain cans packed under commercial conditions and the time required for 5 milliliters of hydrogen to be evolved in the hydrogen evolution test.

The procedure by which every lot of plate intended for fruits or other corrosive products is tested before being made into cans was first started at the various Canco laboratories. However, in 1936 the testing was transferred to the tin mill laboratories and made a part of the specification for tinplate. Placing the testing side-by-side with production was a fruitful step. The improvements in the plate that resulted, when the mills had a tool available for testing the plate at the time it was produced, have been invaluable.

An additional step needed

Establishment of specifications for the composition of the steel base and the hydrogen evolution performance tests marked the first of a series of steps in developing the high level of corrosion resistance of the present tinplate. However, another step was needed because it was commercially impossible to produce hot-rolled steel economically with a metalloid content low enough to meet the desired chemical composition for tinplate for the most corrosive products. Hot-rolled plate, as the name implies, was rolled to gauge after the steel had been heated to a high temperature. To obtain the proper gauge in the relatively crude hot mills, several sheets were put through the mill at one time in packs. If the metalloid content was reduced far enough to obtain adequate corrosion resistance, the hot rolling procedure caused the sheets to stick together and they could not be economically separated after cooling. It is true that a small quantity of low metalloid hot-rolled tinplate was made for corrosion experiments, but the plate was produced by rolling at a lower than normal temperature and the rolling costs were extremely high.

The industry was, therefore, in the position of know-



4 *and* **5**—*Photomicrographs of etched steel sheets showing the different grain structure of (left) hot-rolled and (right) cold-reduced steel.*

ing the type of tinplate it needed without being able to obtain adequate quantities of it. This problem was finally solved by intensive development of the cold reduction process. In this process the final reduction is accomplished without heating; since there is no sticking problem the metalloid content can be controlled.

First cold-reduced tinplate

Cold-reduced tinplate has so completely replaced the hot-rolled product that it is difficult to realize that the first experiments with it were started less than 15 years ago. Continuous rolling of strip is a rather old process, but the strip formerly was of very narrow width. By the turn of the century, mills were rolling strip as wide as five inches. Gradually the width was increased and had reached 24 inches by 1924.

During the next six years the automobile manufacturing industry underwent the greatest expansion in its history. In the designing of bodies and fenders the trend turned away from flat surfaces and sharp edges to smoothly rounded or "streamlined" configurations. The automobile industry found that plate which was hot rolled from a slab several inches thick to strip one-twelfth of an inch thick and then cold reduced to the desired gauge, had greater ductility than sheets that had merely been hot rolled. This cold-reduced plate could be drawn into shape without fracturing.

Recognizing the potential improvement of the quality of the plate and also the economic advantages that could be obtained through continuous rolling of strip, the steel companies began plans for the installation of equipment for the production of tinplate by this process. As the first step, one steel company built a continuous hot rolling mill for the production of strip breakdowns. In this process a slab several inches thick, at a temperature of approximately 2200 deg. F., was passed through successive stands of rolls which progressively reduced the thickness until it emerged from the last stand as a long strip about eight-hundredths of an inch thick. This strip was sheared into sheets of the desired length which were placed in packs. The packs were heated to the proper temperature and were reduced to the tinplate gauge of one-hundredth of an inch or less on conventional single stand hot mills. This procedure had obvious economic advantages over the old method by which all of the reduction of sheet bars one-half of an inch thick was accomplished in conventional hot mills.

While the production of strip breakdowns was a big advance as far as production was concerned, it was impossible to produce low metalloid steels by this process because of the sticking difficulties in the packs of sheets mentioned earlier. About this time another steel company installed both a continuous hot-strip mill and a cold-reduction mill for the production of tinplate. In this process the steel was hot reduced to a strip about one-twelfth of an inch thick, followed by cold reduction to tinplate gauge. The first cold-reduction unit was a single stand reversing mill, but as soon as the advantages of cold-reduced tinplate were demonstrated, four- and five-stand tandem mills (Fig. 6) were built which have gradually been speeded up to the point where they will now cold reduce plate at a rate of 3,000 ft. per minute. These hot-strip and cold-reduction mills stand today as monuments to the genius of the electrical, mechanical, metallurgical and research personnel of the steel companies and equipment manufacturers who solved the many difficult problems connected with the development and synchronization of the equipment. They are also a tribute to management, which was willing to spend millions of dollars for new equipment to produce better tinplate.

While it was evident that cold reduction meant the dawn of a new era in the production of tinplate, it was also obvious that many technical problems would have to be solved before this type of plate could be developed to its highest level of usefulness. Accordingly, a long range intensive research program was inaugurated by the American Can Co., in cooperation with the steel companies, for investigation and improvement of the less satisfactory factors. Throughout the succeeding years, the data from this (*Continued on page 246*)

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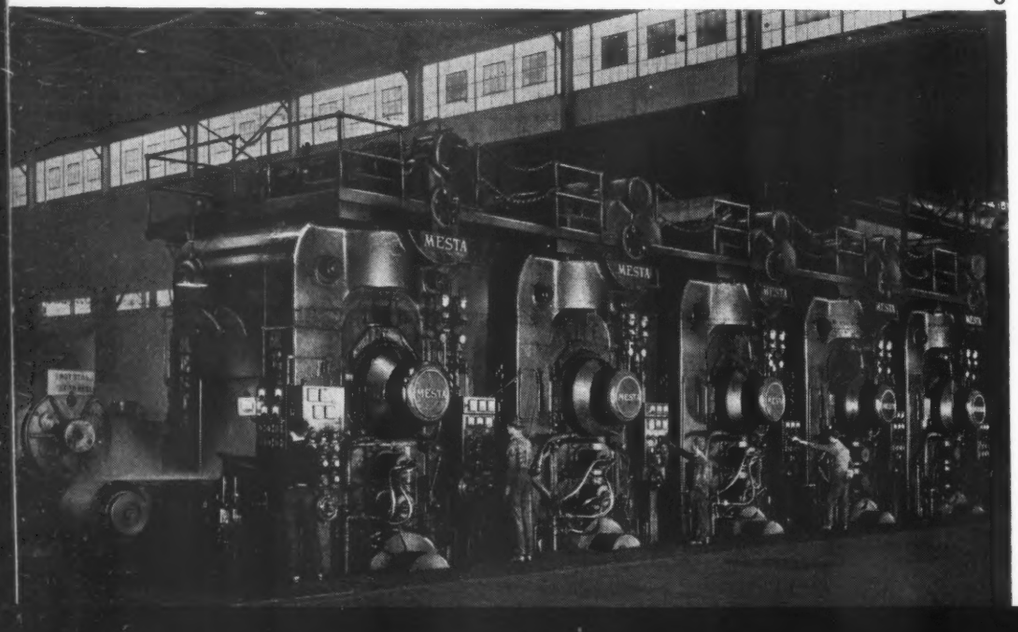
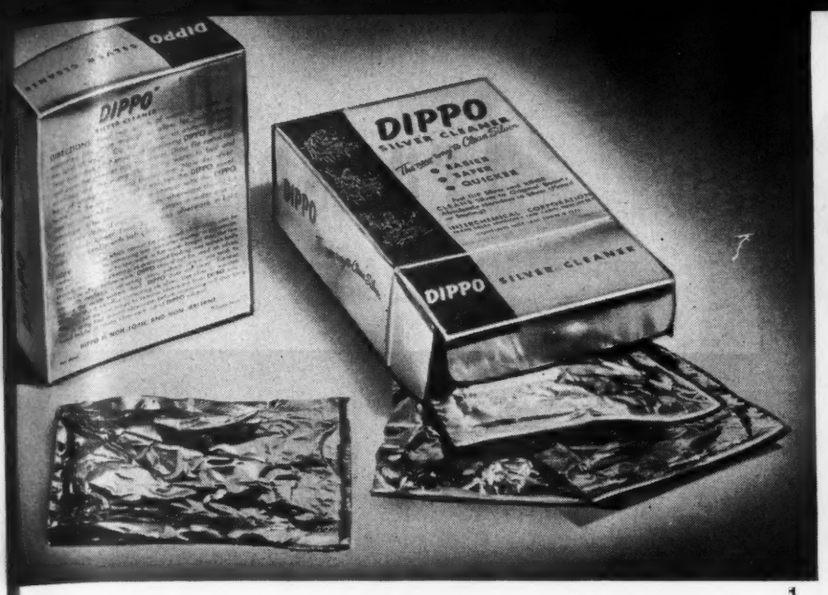


6—Modern five-stand cold-reduction mill. Such mills will produce cold-reduced plate at rate of 3,000 ft. per min.



1

2

1—Laminated aluminum carton suggests instantly the idea of a silver cleaner as used for a new product, Dippo. Aluminum foil envelopes contain the cleaning powder and, after being emptied are dropped into cleaning solution to act as the catalyst in silver cleaning process. **2**—*Housewife simply empties silver cleaning powder into enameled or glass pan containing 2 qts. of hot water, drops foil envelope into solution, then dips silverware into solution so that it touches envelope. Silver should be clean in 10 seconds.*

Silver cleaner . . . *the foil packet acts as catalyst*

A handsome silvery aluminum carton suggests instantly to housewives a new silver cleaner, but that is only the beginning of the functional packaging idea for Dippo, a new product said to clean silver in 10 seconds, developed by the Trade Sales Division of Interchemical Co.

The product, itself, a white powder, is measured automatically into special aluminum foil envelopes, eight of which are packaged to the carton for a larger-sized package and two to the carton for a smaller size.

These aluminum foil envelopes are used as part of the process in cleaning the silver after the consumer gets the product. According to directions on the carton, she simply pours two quarts of water into a glass or enameled pan, tears open the aluminum foil envelope containing the Dippo powder, pours the powder into the water and drops in the metal foil envelope. She brings the water to a boil and holds at simmer; then dips the silverware into the water so that it touches the Dippo envelope. After 10 seconds of this treatment the silver should be completely clean. The aluminum foil envelope has acted as the catalyst in the process.

These envelopes containing the powder are constructed of 0.002-in. dead soft aluminum foil coated with a special thermoplastic compound developed by International Printing Ink Corp. The bags are automatically filled with powder and heat sealed at the top to effect final closure.

The cartons are of reverse tuck construction with vending machine lock and thumb notch. They are made of 15-pt. board to which is laminated 0.0004-in. aluminum foil which is coated with clear lacquer.

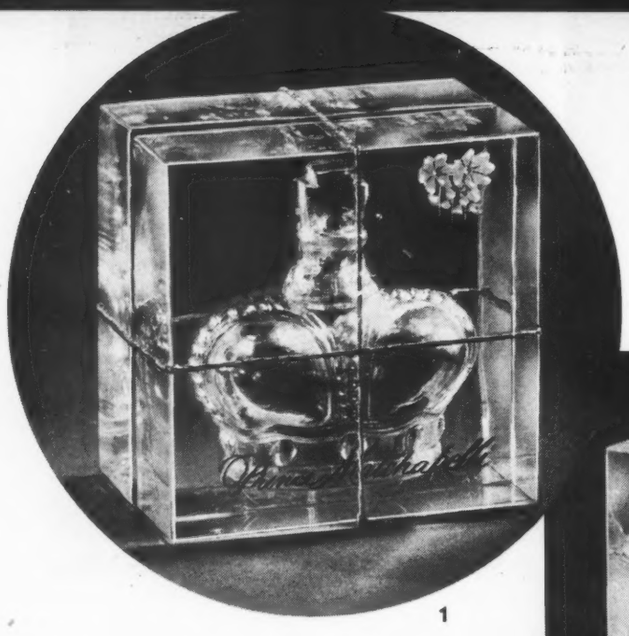
The carton is printed in two colors, red and blue. On the face, trade and product names appear in red and selling copy in blue with the exception of three red "bulls' eyes" which attract attention to the three words, "easier, safer, quicker." At the left of the panel are three line drawings in reverse showing the housewife emptying the aluminum envelope into a pan of hot water, then taking out her flatware and hollow-ware, sparklingly bright after its bath in Dippo.

The reverse side of the package is devoted entirely to directions for using the package. Every detail is included in these instructions to assure best results from the product. The user is cautioned to use only a glass or enameled pan, never an iron or aluminum pan. Special instructions are given also for cleaning large silver pieces which cannot be immersed all at once.

This package is one of the first of the new postwar aluminum packages. It shows not only an unusual functional use of an aluminum envelope but how appropriately a laminated aluminum carton may become an eye appeal package that suggests use of the product by the appearance of the material from which it is made.

CREDIT: *Foil envelopes and cartons, Reynolds Metals Co., Richmond, Va.*

Transparency re



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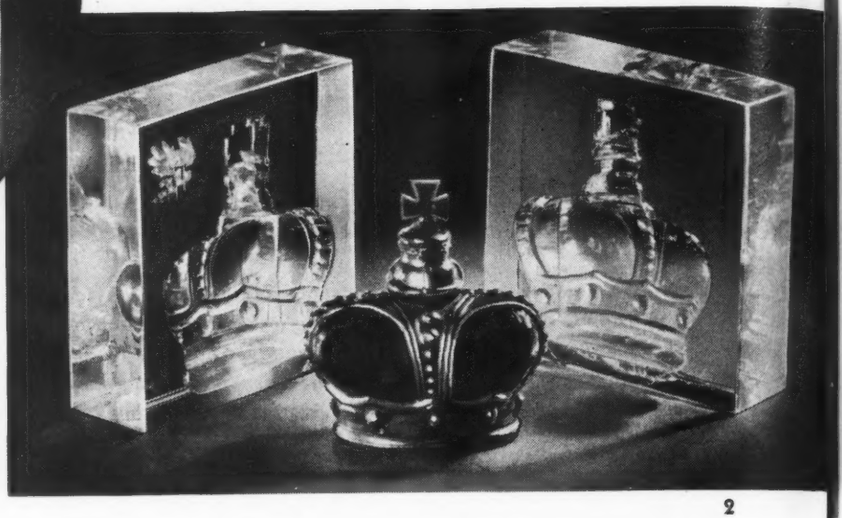

2

1 and 2—*This striking setting for Matchabelli's famous crown bottle is acrylic, injection molded in two halves. Each half is so molded that when the package is closed, the bottle appears to be suspended as if in a cool cake of ice.*

Transparent packaging is coming back in all its splendor as fast as users can get supplies of acrylics, acetates and other materials. Leading cosmetic houses are blossoming forth with exciting spring lines, adapting such transparent media with more elegant and skillful handling than ever before.

Ready for the Easter parade is the new transparent setting for Prince Matchabelli's famous gold-encrusted crown bottle for perfumes. First impression of the package is that of the bottle frozen inside a block of ice and tied with a golden cord.

Actually the cube is made of acrylic in two sections, each one injection molded to conform to the contours of the crown bottle. When fitted together and the bottle placed inside, the effect is a transparent cube in which the bottle appears to be suspended. Steel dies for the molding were designed from models cast in the form of the bottle. Since the bottle has the same contour on both sides, the two halves may be molded with the same die. By means of an embossing die, a nosegay of three tiny flowers is embedded in one corner of the plastic—gardenia, lily and carnation—representing the three Matchabelli perfumes packaged in the new container. The package is being made in two sizes—for a 1-oz. and a $^1/_2$-oz. bottle. Gold leaf printing of the name, Prince Matchabelli, on the face of the container completes the package.

Lucien Lelong has the cosmetic world agog with the glamourous transparent container for his Taglio perfume. This is made of acetate, but everybody is asking, "How do they put those tiny bubbles n the plastic?" It's done some way by applying heat to the acetate, but how is a trade secret Lelong won't divulge. And as if the bubbles were not intriguing enough, the Taglio box has a further embellishment—third dimensional flowers made of colored metal foil, nestling under a transparent bubbled covering atop the box. The base is paperboard, gold covered.

"Forever Amber," the perfume distributed by Kay Daumit, is appearing in a clear transparent acrylic container that resembles a book, thus tying the perfume promotion with the name of a current best seller. The box is made of six pieces of acrylic cemented together. The back edge, corresponding to the binding of the book, is rounded by machine. The name is silk screened in gold on the cover. A smaller transparent package is also being offered for "Forever Amber." It is cube shaped, made of acrylic, drilled by machine in the center to provide a recess for the bottle. Machine grooving gives a decorative effect. A thin line of amber-colored paint is brushed into these grooves. When light catches the paint, the whole container reflects the amber color. A similar container in a smaller size is used but this is not colored.

Another perfume container, used by Henry Rosenfeld for "Mad Hour," he claims is the first telescope box of acrylic used in the perfume industry. Two squares of the plastic form the base and are fitted into jigs during cementing to assure precision of placement. The cover is comprised of five pieces of plastic cemented. Sides are grooved inside for decoration and the top piece is grooved outside. Name is silk screened in gold on front of the box.

Dorothy Gray had two aims in planning a transparent package for "Magic Hour"—visual interest in product and bottle for the (*Continued on page 246*)

cy returns to the cosmetic field

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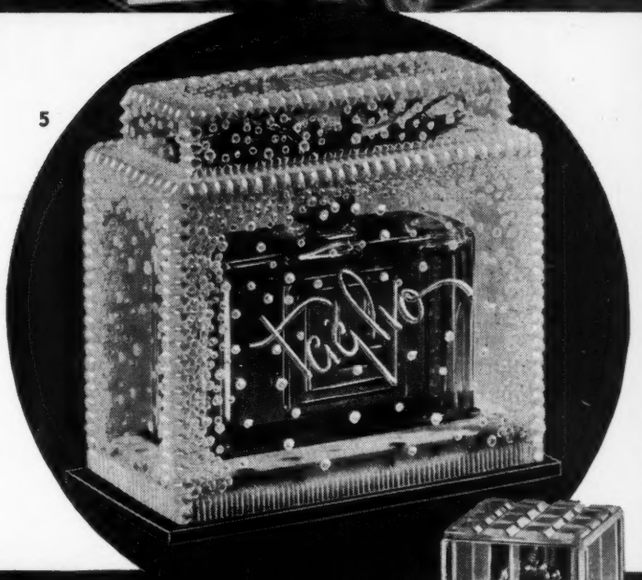
4

3—Use is made of two transparent materials for the packages adopted by Parfum by Alphonse. Bottles are placed in a swirled holder of acrylic which can be used as a carrying tray. The holder and bottles fit into an arched acetate box. **4**—*Acrylic is the material that gives visual interest to Dorothy Gray's "Magic Hour."* **5**—*Lucien Lelong intrigues the cosmetic world with his exciting acetate box that has bubbles in the plastic.* **6**—*"Forever Amber," the perfume, appears in a transparent box that looks like a book. Same perfume is distributed in a machine-drilled, cube-shaped acrylic container. "Mad Hour," claims to be one of the first perfumes in an acrylic telescope box.* **7**—*Helena Rubinstein introduces "Heavenly Glow," a combination set of "Heaven Sent" items in a transparent acetate, drum-shaped box.*



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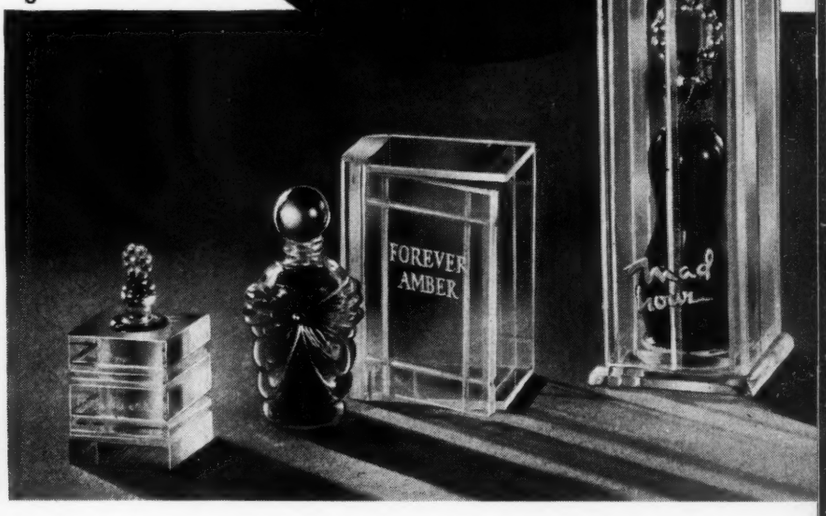

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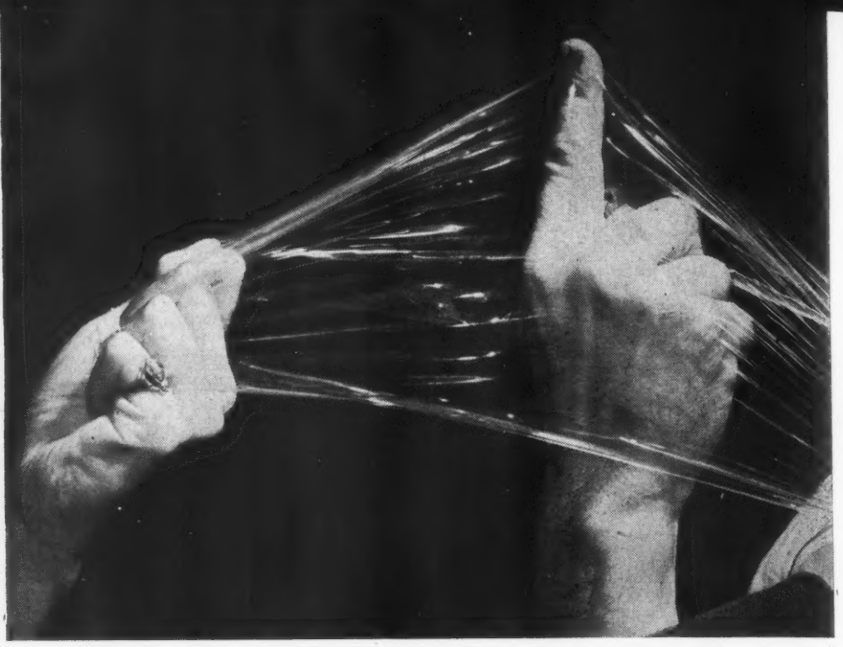

2

1—Bendix washers are to be shipped in this tough, transparent vinyl film which protects the factory freshness of the machine, adds merchandising appeal and becomes a permanent dust cover when in the home.
2—Demonstrating the remarkable strength of a cast vinyl film, which makes it suitable for a shipping package.

PROTECTIVE FILMS *in new merchandising roles*

*by F. C. Edelston**

Growing out of wartime experience with new, extremely tough types of transparent plastic film, a postwar trend is toward transparent packaging of consumer items very much larger and of different types than have previously been considered adaptable to this type of material.

Such items as washing machines and freezer cabinets are now being shipped in envelopes made of cast vinyl chloride acetate film—the same super-tough film which during the war made covers for rifles and pistols. In most of these new consumer applications the purpose is a threefold one: to protect the item from marring during shipment (incidentally greatly simplifying the shipping pack); to keep it clean and fresh during storage and display by the dealer and to provide the proven extra merchandising spark of transparent packaging.

Peacetime packaging must embody the emphasis on protection stressed so greatly in military packaging. Obviously, the finest product becomes inferior if it does not reach the customer in perfect condition. Time, labor, materials—all the untold efforts that go into a product—are wasted unless proper protective packaging insures "factory fresh" delivery.

Fortunately, protective packaging as such has emerged from the war as a recognized science. The wartime needs for perfect protection, plus the engineering skill acquired throughout many industries that formerly considered packaging a relatively unimportant shipping room detail, are factors that will tend to reduce materially future instances of downright insufficient packaging protection.

Granted, therefore that there will be comparatively few flagrant violations of elementary packaging principles, so that the majority of protective packages will provide adequate protection—the point remains that protective packaging which *merely* protects is still far from perfect from a merchandising standpoint. The logical new trend in packaging—particularly novel in the packaging of large metal assemblies—is toward an ideal combination of protective features with definite merchandising advantages.

This trend is actually an anticipated consequence of the keenly competitive markets to come. Among an assortment of equally sound, equally reputable and equally priced products, that one will stand out which features that extra bit of appeal, that extra bit of value and that extra bit of dramatization.

This is an old, well-understood principle of packaging, but it is now being applied to a greatly extended field of products. An example is the Bendix Home Laundry (Fig. 1). Before the war, nobody had thought of packaging a washing machine in a transparent film.

* Vice-president, the Clarvan Corp., Milwaukee.

But here's what the vinyl "Plasticoid"[1] cover will do for Bendix:

1. Applied at the factory as the machine comes off the production line, the vinyl cover will insure that the machine will be kept free of dirt and scratches until it reaches the user's hands—that the washer will be delivered in "factory fresh" condition, no matter how long it may be stored or how many times it may be trans-shipped.
2. It will simplify the factory's problem of packing and crating. Instead of requiring the usual careful wrapping in paper and packing in a fully sheathed crate, these machines with their transparent vinyl covers may be shipped without other wrapping in an open-type crate—thereby reducing shipping weight.
3. Easily removed from their crates and stored on the dealer's sales floor, these washers, still in their transparent packages, will stand out with an impression of freshness and cleanliness impossible to obtain in any other way. The buyer will have the assurance that her machine has had the benefits of superior packaging protection all the way from the factory.
4. Finally, in this case, the buyer will have the extra value of getting a permanent dust cover for her washing machine. The vinyl cover is bound with cloth tape on all edges and is intended to be thus permanently "re-used." Inexpensive as a dust cover may be, experience has shown that the idea of getting one free, as regular factory equipment, is often the little extra inducement that will sway a sale when it is just a matter of choosing between one brand or another.

[1] Registered trademark of Clarvan Corp.

Cast vinyl chloride acetate film is far different from most plastic films with which packagers had pre-war experience. Most transparent films would not stand the stresses and strains to which they would be subjected as a shipping package for large, heavy, square-cornered metal objects. But one of the outstanding characteristics of this film is its elasticity and resistance to puncturing and tearing forces. As demonstrated in Fig. 2, it is almost impossible for a man to poke his finger through it.

When used as gun covers in amphibious landing operations, the same film had sufficient "give" to allow a soldier to wrap his finger around the trigger from the outside and shoot without removing the gun from its protective cover.

Here are some of the other properties which make

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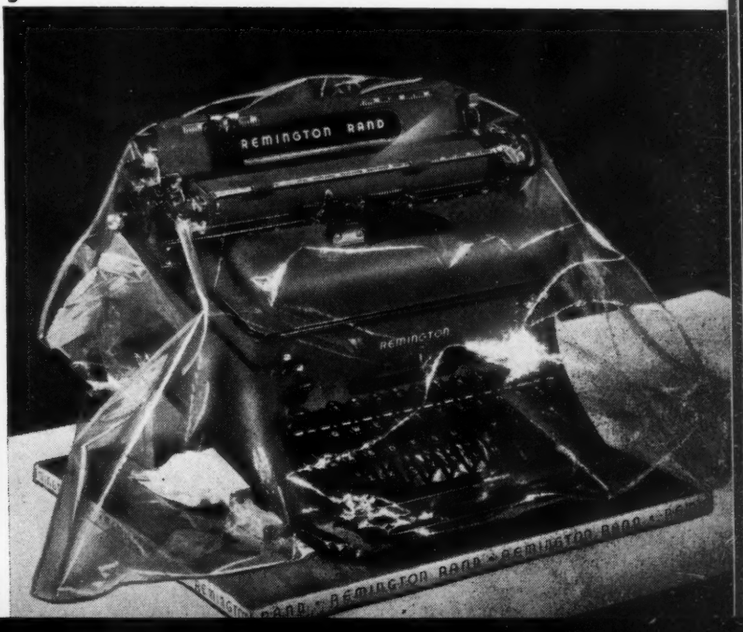


3—The Ben Hur Quickfreezer also is protected and glamourized by sparkling transparent film. Sharp corners will not puncture this film. ***4****—Shipping case is attached by screws to base on which typewriter is arranged for display, sealed in a plastic envelope with desiccant for corrosion protection.* ***5****—With cover removed, typewriter is still safe from dust and corrosion and takes on added sales appeal through assurance that it is factory fresh. Note use of base for extra brand-name display.*

this film so interesting for new types of transparent packaging:

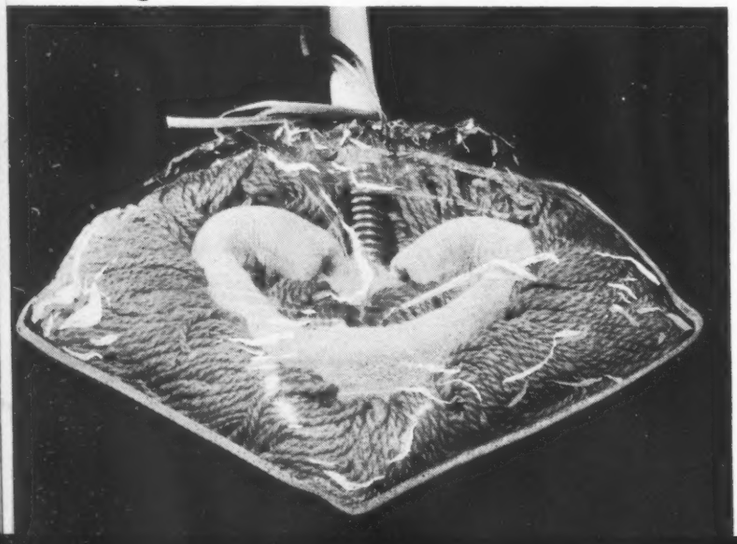
1. Waterproofness.
2. Greaseproofness.
3. Durability. Because of excellent dimensional stability and good aging characteristics, the film does not readily crack, peel or embrittle.
4. Excellent resistance to most acids and alkalis.
5. Excellent heat-sealing qualities. Because the film is inherently heat-sealing, complete fusion takes place upon application of pressure and heat, leaving a weld that is stronger than the film itself.
6. Because of the toughness of the film, absence of grain and excellent pliability, it lends itself ideally to sewing operations.
7. As a cast film, vinyl is outstandingly transparent; calendered, it can be produced in a wide variety of beautiful translucent shades for added merchandising value.

Another typical new application is in protecting faces of the Ben-Hur Quickfreezer (Fig. 3) in transit and storage, at the same time facilitating the use of economical open crates. And at point of sale, what prospective buyer, trying to select the best unit from a number of similar products, could help but be impressed by the suggestion of quality conveyed by the gleaming cover?

A slightly different example of the new transparent trend is presented by the shipping and display pack for typewriters[2] shown in Figs. 4 and 5. This package—a commercial adaptation of the military dehydrated pack—furnishes exceptional protection against corrosion, mildew and dust in transit and storage. Then, on the dealer's shelf or in the store window, by simply removing the screws that fasten the sides of the box to the base, the shipping box may be converted into a display unit which continues to give the same complete protection—now, also, with extra merchandising punch, vividly demonstrating "factory freshness" and quality for all to see.

[2] Patent pending.

6—Even prosaic dust mop acquires glamour with this re-use cover which seals in oil and odor, keeps out unwanted dirt. Cover is bound in red cloth tape which forms tie.



Other adaptations

Another example of a protective package with a maximum of "plus" features is shown in Fig. 6. The trim tailor-made "Sprus-Up" dust or oil mop cover is made from transparent vinyl film, bordered with binding tape of a red shade that enhances the color of the enclosed mop. It is provided with a drawstring closure. This package for a product never before packaged has the following features:

1. It effectively protects the mop from mechanical damage during the many handling operations encountered in shipping, storage, distribution and in the retail store.
2. It keeps in place the chemical with which the mop is treated and prevents contamination of either the mop or other products that may come in contact with it.
3. The sparkling package glamorizes a product that tends to be drab. Therefore, it lifts the mop above the ordinary level of competitive products and makes it stand out in its class as a high-quality, premium item.
4. When not covered, an oil mop is a dust catcher and readily becomes soiled, presenting an unsightly appearance. Protected by transparent film, it now spells "factory freshness."
5. As is the case with the washing machine cover, this is a re-use package, preventing the dust mop from soiling the wall or other articles in the home broom closet.

It seals in the strong oil odor. If the housewife should choose to leave the mop outdoors, the waterproof cover would provide complete protection against the elements.

Packaging assumes prominence

These examples of modern peacetime applications of new materials and methods originated by the military packaging developments of World War II indicate that protective transparent packaging reaches far beyond former conceptions of its scope. The packaging aspects, once a detail of secondary importance, now rank with the other fundamental phases of a product such as engineering and fabricating, and in fact assume particular prominence in their relation to distribution of the product.

Protective transparent packaging should be instrumental in streamlining merchandising; it should be a boon to sales promotion, and it should do a real advertising job in itself especially at the point of sale—in the retail outlet.

CREDITS: *Transparent packages fabricated by Clarvan Corp., Milwaukee. Vinyl film by the Bakelite Corp., New York.*

Assembled package for Lyocyte and its components: a borosilicate glass jar, shaker top, dust cap and tear-tab outer cap. All closure parts are aluminum. Shaker top has rubber gasket; dust cap a rubber disc.

Sterile dispenser . . . for dried human blood cells

Development of an important new ethical product confronted Sharp & Dohme, early in 1945, with an interesting packaging problem.

The product, to be trade-named "Lyocyte," was a powder composed of dried human blood cells, a by-product of the blood plasma operation. This powder had been found very effective in the treatment of certain types of ulcers, open lesions, post-operative abdominal wounds, and burns, abrasions and lacerations generally. It served to promote healing.

Obviously, the product had to be kept completely sterile, as it would enter directly into the blood stream after application to the surface of the wound. It would be used only by physicians and surgeons, and convenience of opening and application was important. The accepted treatment called for the powder to be sprinkled directly on the wounded area. Not all of the contents of a package might be used in one application and therefore there had to be a way of re-closing the package quickly. The powder was extremely hygroscopic and therefore required the utmost protection against moisture and water vapor. At the same time it would be subject to storage under refrigeration in the package. It might be required to have a long shelf life.

After careful consideration, all of these requirements were met by Sharp & Dohme's packaging department with the package illustrated herewith.

The three-piece closure is particularly interesting. It starts with an aluminum threaded cap which is perforated to form a shaker top for easy application of the powder, and which has a rubber gasket inside to seal it tightly. Over this cap goes an aluminum "dust cap" secondary closure which has a rubber disc insert. The rubber parts, combined with 175 lbs. pressure in the capping operation, produce an effective seal which protects both against contamination and against the entry of moisture.

An aluminum outer cap, with a "tear tab" such as is used on some penicillin packages, holds the entire closure assembly in place and permits quick and easy access. The jar may be re-closed simply by replacing the dust cap.

The need for quick administration of the product in copious quantity required a wide-mouth container. A borosilicate glass container was designed to comply with U.S.P. requirements for a sterile product.

A strong telescope setup box, covered with a glossy brown flint paper and capable of withstanding refrigeration, completes the package. A strip label serves to seal the box.

Sharp & Dohme built a special machine for filling the glass container. The powdered product comes in from the laboratory in stainless steel bottles and is emptied into a hopper of the filling machine. Filling is on the basis of weight—each jar containing the equivalent of 20 cc. of human blood cells. Each jar is check-weighed. It is not a high-speed operation, since the production of this highly specialized product is hardly on a volume basis.

CREDITS: *Glass container by Kimble Glass Co., Vineland, N. J. Aluminum primary and secondary closures by Ferdinand Gutmann & Co., Brooklyn, N. Y. Aluminum tear-tab cap by The Aluminum Seal Co., New Kensington, Pa. Rubber gasket and disc by The West Co., Philadelphia. Setup box by Walter P. Miller Co., Inc., Philadelphia.*

PACKAGING PAGEANT

1 Wire drawing dies made by the Carboloy Co., Inc., Detroit, Mich., are now packaged as stock items in quantities of ten in strong paperboard cylinders having a waxed interlining to protect the dies from moisture. A label on the lid of each carton carries such pertinent information as nib size, casing size and hole size. The ten-in-one package shortens time to fill orders for standard dies, insures stock arriving in good condition, adds to the neatness of the user's stockroom and speeds up stock inventories. Packages, Stecker Paper Box Co., Detroit, Mich.

2 "Spring-Up" is the new name for the new package introduced for the spring season by Primrose House, N. Y. The base of the package which holds the lipstick and nail polish is grass-green and the top, decorated with shades of fuchsia, has the flowers mounted on spring-like stems. This is the first time nail polish has been included in the Primrose line and the design has been receiving favorable comment from retailer and consumer alike.

3 The package for the Lactona hairbrush has been designed to take complete advantage of the transparency of acetate sheet and keep the brush sanitary during display. Rounded features of the package give a complete view of the brush from any angle and the formed plastic lends clean sweeping lines to match those of the product within. Designer, Barnes & Reinecke, Chicago, Ill. Acetate, Eastman Kodak Co., Rochester, N. Y. Tags, Acme Tag Co., Minneapolis, Minn.

4 Leigh Perfumers, a division of Shulton, Inc., present their first postwar package—the Leigh Perfume Miniatures. The hinge-top carton is a pocket-size white container with a cerise and gold background window arrangement for the small bottles and sells at a price which will allow any woman to have a complete perfume wardrobe. The box itself may be used for hairpins, bobby-pins or knick-knacks after the perfume has been removed.

5 With the introduction of a new label for its bottled beer, the F. & M. Schaefer Brewing Co. announces a comprehensive new design program, the theme of which will appear in all Schaefer advertising in the future. The new symbol, center of the design, will be part of the campaign to launch the new packages. Design, Walter Dorwin Teague, New York City. Labels, William W. Fitzhugh, Inc., Brooklyn, N. Y.

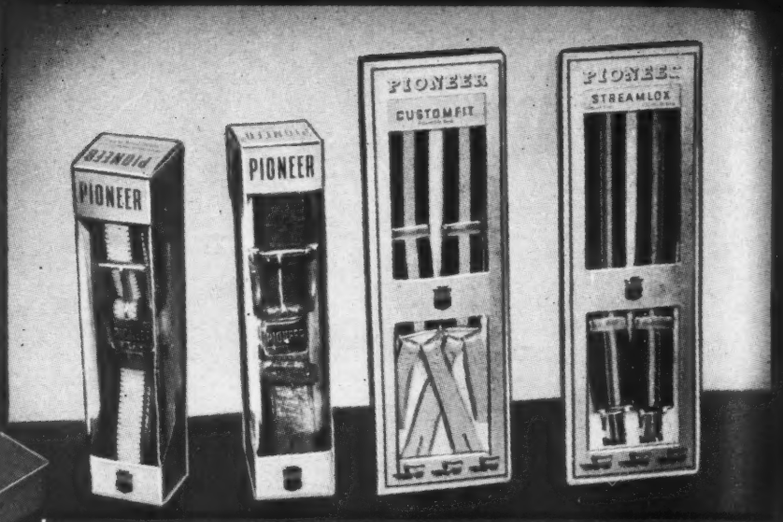
6 The Lord Calvert "Men of Distinction" advertising campaign is being promoted on the bottle of Lord Calvert in the form of a new back label. Each label will show a portrait of one of the "Men of Distinction" in reversal of the usual procedure of advertising. Usually advertising copy shows a reproduction of the product being advertised—in this case the product shows the

advertising copy. In addition, a new Cel-O-Seal band has been added which reaches further down on the bottle, adding richness and color to the package. On the band, the advertising tie-in is the repetition of the phase stressed in magazine copy, "For those who can afford the finest." Lithography, Schlegel Lithographing Corp., N. Y. C

7 The newest Revlon combination is packaged in a set-up box with die-cut platform to hold Adheron, nail enamel and lipstick—the last two in the just-introduced shade, "Hildegarde Rose." The outside of the box takes its design cue from the name of the color and is splashed with the famous night-club entertainer's own color signature of a rose in a suave, gloved hand.

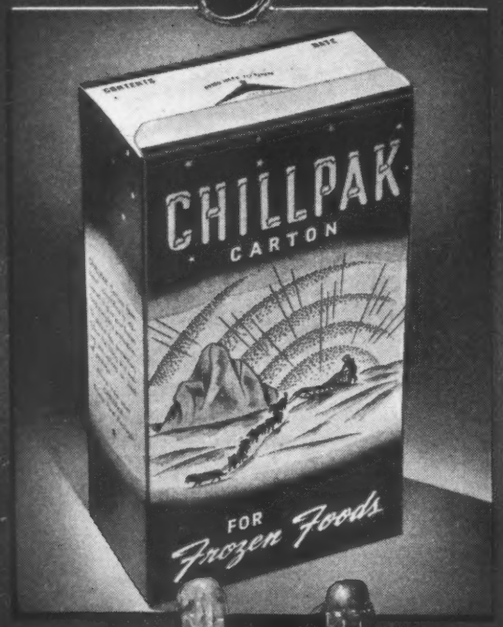
8 A set-up box for children's blocks, a little off the usual coloring and design for this type of product, is the one recently adopted by Childhood Interests, Inc., for "Baby's First Blocks." The background is a pale, dusty blue, sufficiently different from baby blue to make it stand out among other baby toys. The blocks are reproduced in their actual colors, red and white, and the lettering is in red. Designer, Alan Berni, New York City. Box, General Products Co., Providence, R. I.

9 The latest addition to the Dermetics line is an after-bath powder in a round paperboard box of cameo-pink trimmed with pastel blue and embossed in gold. The design which appears around the box and on the top is in deeper shades of the two colors. The addition of the all-lamb's-wool puff gives the last touch necessary to make this a super-luxury item. Box, F. N. Burt Co., Inc., Buffalo, N. Y. Decorative paper, J. Makowsky Corp., New York. Designer, John B. Miller.



10 Men's accessories—suspenders, garters, belts etc.—are reappearing in plastic-window cartons. Pioneer, a leader in this field, has its products back in double-lock cartons with cellulose acetate windows that take full advantage of transparency to show off the contents. Because the products do not slip easily into the carton, the boxes are made with a lock joint rather than a glue joint and are locked after the items are inserted. Cellulose acetate, Celanese Plastics Corp., New York. Cartons, Arvey Corp., Jersey City, N. J.

11 "Kiddie-Kof" suckers, medicated lollipops for children, are being distributed to drug stores throughout the country by the manufacturers, Sharp & Shearer of Reading, Penna. Packaged six to the set-up box, the small boxes are packed in a display-shipping carton which can go right onto the retail counter. A pink and blue color combination is used in such an adroit way that the whole package maintains an ethical drug appearance. Package and display designed by Graphic Arts, Inc., Philadelphia, Penna.



12 The housewife who preserves food in her home by freezing is offered a new waxed folding carton for this purpose. Decorated in red and blue, it has a top flap which is left unwaxed so that she may pencil in product name and date of pack. A simplified locking device makes the carton easier for her to open and close. Shipped flat, the carton is set up in the home. The back face of the container shows four simple cartoon-type drawings which explain how the carton can be used to best advantage. Carton, Empire Box Corp., Garfield, N. J.

13 All orders for Charles Fournier champagne and sparkling burgundy, from this point forward, will be shipped by the Urbana Wine Co. of Hammondsport, N. Y., with new full-dress labels. The design is extremely simple and in good taste—white

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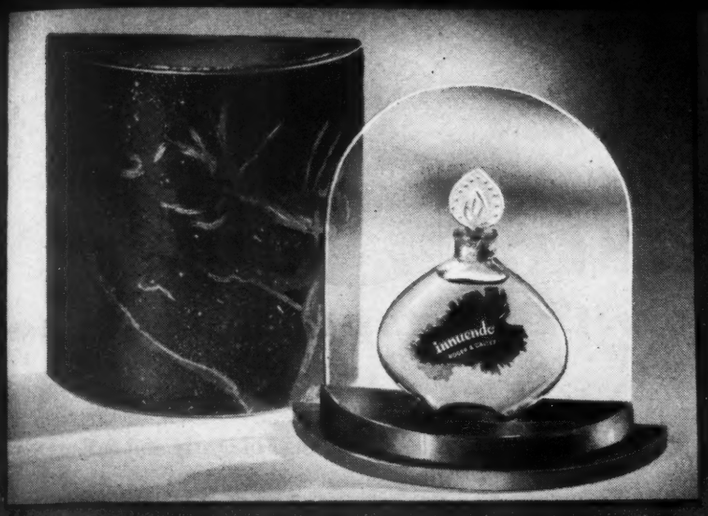

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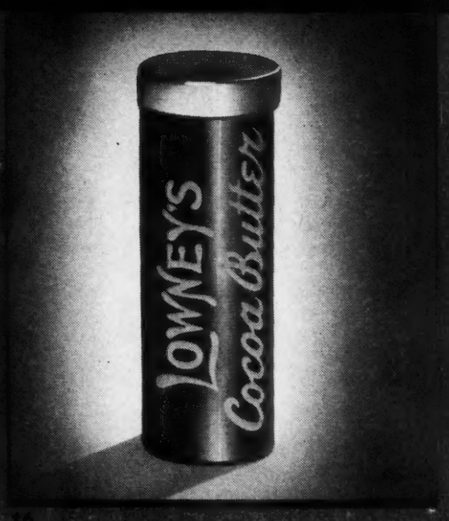

16

foil and a green and white label for the champagne; red foil and a red and white label for the sparkling burgundy.

14 Eye-appeal is the criterion which inspired the new package for "Bon Bons"—a chocolate marshmallow confection—produced by the J. B. Carr Biscuit Co. of Wilkes-Barre, Penna. The scallop-edged tray is completely encased in cellophane. In the center of the box is a re-inforcing strip of paperboard which serves to keep the cellophane away from the product as well as provide a decorative note. The design is an adaptation of the J. B. Carr trademark which has been incorporated into a pin-wheel effect. This is the first of a whole series of packages being developed for the company. Design, Jim Nash, New York. Trays, Empire Box Corp., Garfield, N. J.

15 Roger & Gallet has introduced its new perfume—Innuendo—in a gracefully curved bottle set against a clear glass shield. The most interesting feature of the package is the design of the telescope box. The decorative paper for the lid is produced in large sheets covered with an all-over design inspired by a painting by Enrico Donati. Each sheet produces enough paper to cover six boxes and, therefore, gives six different and distinctive design patterns. Design and paper, J. Makowsky Corp., New York City. Boxes, Makdon Co., New York City.

16 A spiral-wound container with protective lining and drawn metal cap has been adopted by Lowney in Canada for its cocoa butter. The company selected this type of package, not as a wartime measure, but because it was lower in cost and generally considered more desirable for the product. It is filled by pouring the melted cocoa butter into it and it is equipped with a push-up dispensing feature. Tube, Somerville, Ltd., London, Ont.

17 Milkmaid Miniatures, two 2-oz. containers of this famous line of cosmetics by Lorr Labs., are packaged in a delicately flowered, white hinge-lid box. The opal glass containers have the flower design and label information applied directly to the glass. A blue, die-cut platform holds the two containers in place and on a slight angle to improve the display value of the products on the retail counter. Containers, caps and labeling, Hazel-Atlas Glass Co., Wheeling, W. Va.

18 Eaton Laboratories, Inc., the new ethical division of The Norwich Pharmacal Co., is packaging Furacin, a soluble

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dressing, in black lacquered jars with black plastic caps. The black of the container is a necessity because the product is subject to certain changes when exposed to sunlight for long periods of time. A deep blue and white label with simple, legible type in black adds a professional look to this container meant for use by physicians only. An outer folding carton repeats the label design on a pale gray background. Jars, Hazel-Atlas Glass Co., Wheeling, W. Va. Caps, Colt's Patent Fire Arms Mfg. Co., Hartford, Conn. Design, Frederic S. Grover, Rochester, N. Y.

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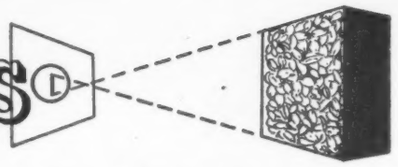
X-RAY EYES



...on the inspection line

The use of x-ray in the inspection of various kinds of manufactured goods, from shoe heels to candy bars, has become established as an invaluable method for assuring quality control. More recent is a trend to the use of x-ray as an aid to packaging, permitting the examination of products and their arrangement in the container after they have been packaged.

In candy manufacture, for example, the arrangement of items in the box is important, and in every field it is necessary to be certain that each package contains its full measure. Most important, many processing fields need every possible precaution to guard against the inclusion of foreign matter, since the ingredients are often assembled from various sources under conditions beyond the control of the processor. Despite every precaution—hand-sorting, magnetic separators, screens, sieves and electric eyes—it is often difficult to locate objects which are hidden within the material. X-ray infallibly shows up foreign objects—which, in the case of food products, can be the cause of costly and embarrassing damage claims.

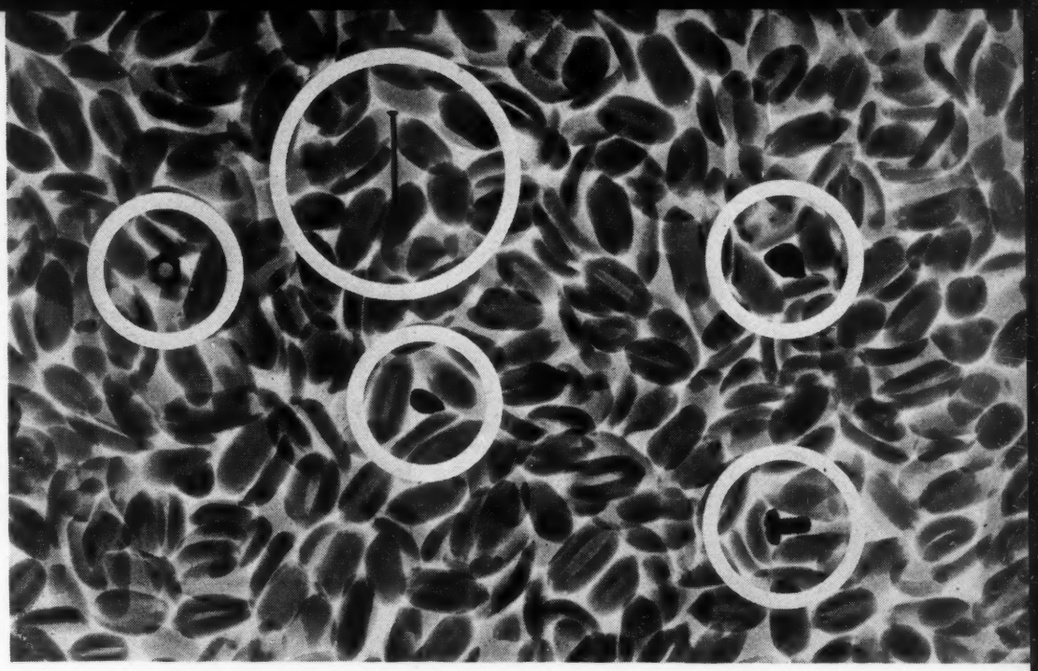
X-ray does not supersede but supplements and checks on all other methods of inspection. At E. J. Brach & Sons, Inc., Chicago candy manufacturers, for example, the x-ray machine is placed at the end of the line, inspecting cartoned candy just before the cartons are placed into shipping containers. It is interesting to note that Brach, in addition to its x-ray unit, also employs almost every other known method adaptable to the thorough examination of its type of product. X-ray thus cuts the margin of error to an almost irreducible minimum.

Brach has turned its x-ray equipment into a valuable public relations weapon—featuring x-ray in its current advertising.

In many industries, the cost of this equipment can be

PHOTOS COURTESY GENERAL ELECTRIC X-RAY CORP.

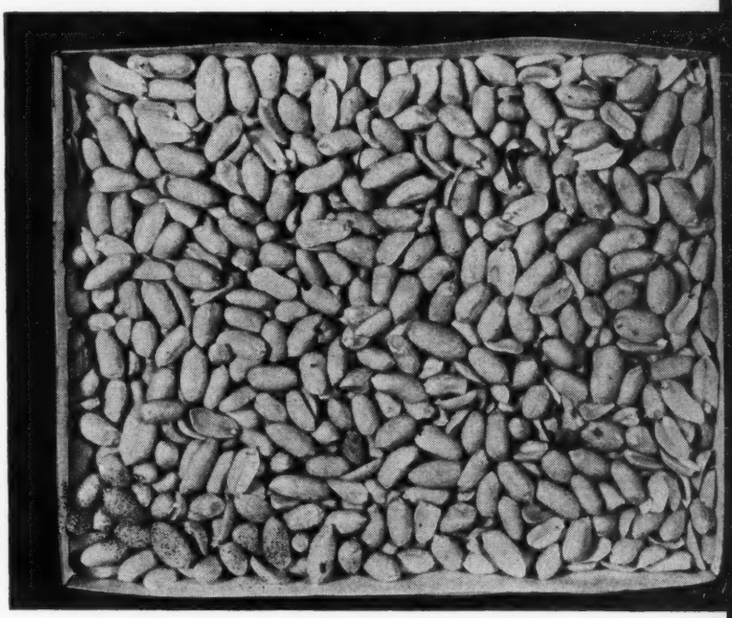
1—At E. J. Brach & Sons' Chicago plant, cartoned candy passes on conveyor through booth containing x-ray screen. Cartons showing suspicious foreign objects are ejected from line by the operator. Belt speed is 15 to 30 ft. per min. Operators work one-hour shifts.



2—*In a box of peanuts, fluoroscopic x-ray screen unmistakably shows (circled) a bolt, nut, nail and two other pieces of metal—which may have dropped unnoticed from machinery, or may have come from the barrel in which the raw peanuts were shipped.* 3—*To the naked eye, the same box of peanuts looks innocent enough. The most careful sorting, cleaning and inspection might not have spotted the dangerous objects.*

written off in short order by eliminating any need for destroying an entire lot simply because a defective unit is found in it. This was formerly standard procedure in many fields, particularly in metal parts. A certain number of units in each lot were examined, sometimes by destructive sectioning, in a sampling procedure. Now, even where production is too rapid to permit 100% inspection of all items by x-ray, the remainder in a given lot may be x-rayed, rapidly and without sectioning, should a defective item be found in any particular lot.

Among the many fields in which x-ray is used for the inspection of packaged goods other than food are wire, pharmaceuticals, plastics and ordnance. Fruit and vegetables prior to packaging may be inspected for frost damage, mud balls, crystallization, blossom-end decline and puffiness. Non-edibles are checked for the presence of nails, breaks in insulation, position of inserts, porosity, knots, loose parts and position of cores.



Fluoroscopy inspection

The type of x-ray that is used for continuous production-line inspection of products is known as fluoroscopy. This may be defined as the use of x-ray to excite visible light from a fluorescent screen, thus permitting the examination of objects in motion. Only the visual ability of the operator limits the speed of the line. Operators are alternated every hour to avoid any possibility of over-tiring from such an unvarying type of work. The machine must either be located in a darkened room, or a darkroom must be built around the machine to preserve dark-adaptation of the eye, which is necessary in order to obtain full visibility from the screen. At Brach, a ventilator provides continuous air change in the room.

Located between the cooling tunnel and the casing stand, the Brach installation consists of a double line passing through the fluoroscope, although only one line is used at present. The other line is provided in the event that later volume should require it. The beam spread from one x-ray tube is sufficient to handle both lines. This installation also incorporates an ejector mechanism by which the operator, by hand, can quickly remove a defective box of candy without slowing the line.

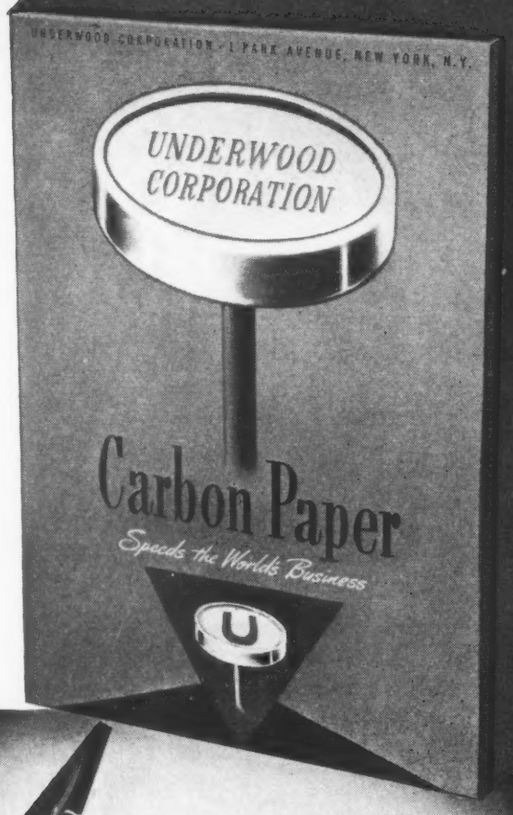
The box passes between the x-ray tube and the fluorescent screen, thus casting an x-ray shadow of the candy on the screen, which then reproduces the image in visible light.

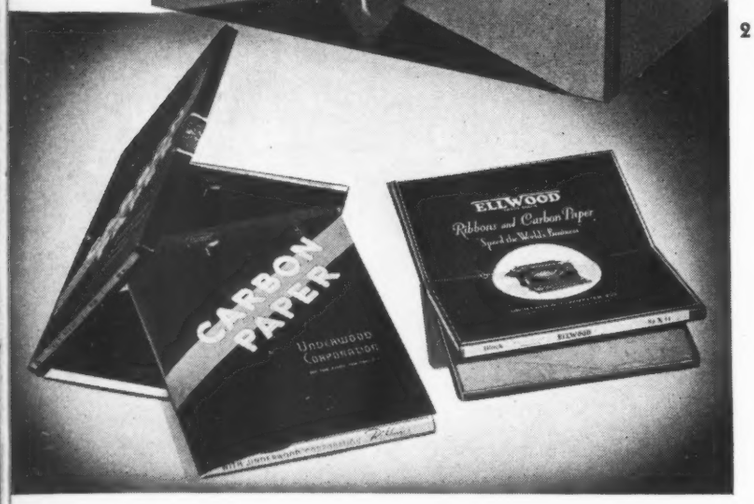
Cost of operation and maintenance is only a few cents per hour, since power draw is small and tube life is long.

A single operator, after a short training period, can easily examine most products for foreign materials at a belt speed of 15 to 30 ft. per min., depending on the type of product.

For Her Highness, the Secretary

. . . new convenience in carbon paper boxes.





2

1—New design is distinguished by reproduction of magnified key-top. 2—Old boxes used by Underwood. Left, the one just replaced by new carton. Right, box with tilt scored cover that company introduced about 1916.

The typewriter industry is a man's world that has put millions of women in business. Its success depends on how well the manufacturers in this field can supply the requirements of the career girls who use their machines and accessory supplies.

One item that has escaped attention for 50 years is the convenience feature of the conventional carbon paper box. Little change had taken place in this container since typewriters and carbon paper came into general use during the 90's, until the Underwood Corp. called in an independent designer to plan a new one.

The new Underwood package, just introduced, is designed to measure up to present demands for convenience and speedy operation. It is not only easier for the secretary to use and store partly used sheets, but it speeds up packaging operations in the plant and saves container storage space.

The new carbon paper container is a folding carton die cut in one piece and delivered flat. The paperboard is scored so that two vertical sections form a container for the carbon paper, while a third section is folded and glued down one side only to form a storage compartment in the back for partly used carbon paper.

The carbon paper is first placed in a chipboard tray that keeps the carbon smooth when it goes into the box and facilitates dispensing.

This new carton eliminates the previous practice of placing four separate folders, each containing 25 sheets of carbon paper, into the container. The secretary, in using the new package, merely tears the trademarked sticker off the face of the carton, pulls out the protective flap and tears this off along a perforated line. The carbon sheets may then be removed one or more at a time. At the end of the day the partly used carbon is stored in a separate compartment in back of the carton. She can put the entire carton into her desk and to take new sheets doesn't even have to remove the container from the desk, but simply slides one or more sheets out.

The carton, at present, has been adopted only for standard size $8^1/_2$ by $11^1/_2$ in. carbon paper. This was done because the largest percentage of correspondence carbon paper is this size and it would not be practical to make a box for all the different odd sizes.

The new carbon paper package, holding 100 sheets, is offered as an optional box available for two different qualities of paper. Both qualities, it is stated, are an improvement in that they are treated not to curl, are easier to insert between the sheets of stationery and have an improved inking. Another innovation to identify the Underwood carbon paper is an imprinting of trademark on the back of every sheet. (Fig. 5)

The surface design of the package is distinguished by a magnified typewriter key-top reproduced on the front. The company name, Underwood Corp., appears in the center of the key in the space ordinarily occupied by a

letter. Colors for the front printing are black, copper and blue. The entire background is a muted copper color with the product name, "carbon paper," in blue. The triangular seal which holds the closing flap in place is a rich red with a repeated design of the key-top.

Space for identifying stock number, size, color and weight is provided at the top end of the package, easy to see on the shelf. Instructions for using the storage compartment are given on the surface opposite the loose back flap. A selling message is also included on this side, telling the user to look for the Underwood symbol—the key-top in a triangle—and promoting related Underwood products. The back flap is red, unprinted on the inside but with ruled white lines on the back, identified in the center with the trademark and the printing of the company's written guarantee.

The designing of the new package was undertaken after a study of existing packages to determine why they failed to measure up to convenience requirements. It was found that the general complaint regarding functional efficiency of previous packages indicated that nine separate steps were necessary to remove one sheet of carbon paper. The new package, it is said, permits access to any number of sheets in one to three steps.

Carbon paper packages are filled by hand. The makers say there is a fortune waiting for the person who discovers how to do this automatically. The new cartons, the company states, save several steps in the packing operations. For example, they eliminate the separation of the carbons in units of 25's and of putting these units into four separate folders. For the new packages, 100 sheets are counted, put into the chipboard tray and slipped into the carton as one unit.

CREDITS: *Carton design, Frank Gianninoto and Associates, New York. Carton, New Haven Pulp and Board Co., New Haven, Conn.*

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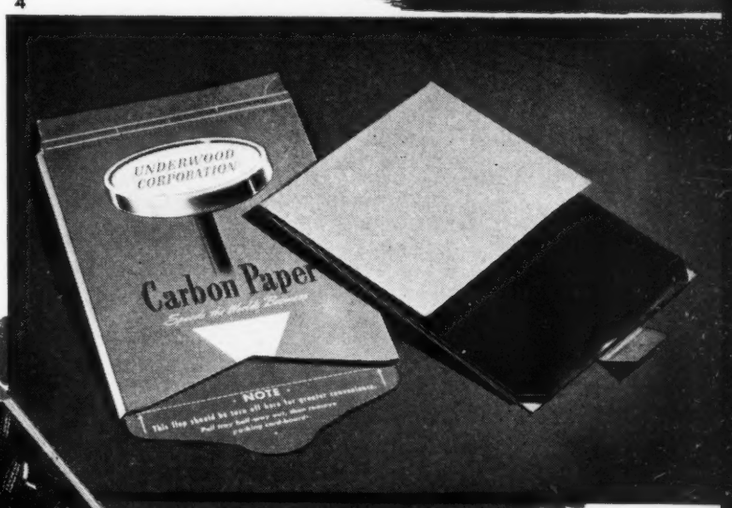

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3—New package does not have to be removed from desk to remove sheets. You simply slide out one or more sheets as needed. 4—Carbon paper is placed in the tray that keeps sheets smooth when tray goes into box. Tray also facilitates dispensing.

5—*Unusual convenience feature is back folder that forms storage compartment for partly used sheets. Every sheet is identified by imprinting company's trademark on the back.*

Good to eat . . . *appetite appeal for health foods*

The manufacture and distribution of so-called health foods has grown in the last few years to a business of considerable size. Tasty as they are in most cases, these foods usually represent not what the buyer would prefer to eat but what he has to eat, for reasons of health or because of allergies.

If ever a product called for all that the package could do for it in the way of appetite appeal, this is it. Yet until recently most of the health foods have been distinguished by their drab, unimaginative labels—usually without illustration or failing to take advantage of the appetite-tempting full-color pictorial reproductions which have done so much for the sale of general line canned foods. Small wonder that the buyer approached his can of "health food" with the idea that the contents were going to be pretty dreary.

It may be true that many of the early health foods were not inspiring, but as the industry grew and competition sprang up, and as the research kitchens developed new products and new ways of combining and serving them, flavor and acceptability were much improved. Many of today's "substitute" foods are almost indistinguishable in taste from the conventional foods they are intended to replace in the diet.

A case in point is the product "Choplets," by the Special Foods* company of Worthington, Ohio. Through a special process, these tasty "chops"—derived princi-

* Name of the company has since been changed to Worthington Foods, Inc.

NET WEIGHT 1 POUND

CHOPLETS

CHOPLETS are a delicious protein food and contain no meat. Through our special process these tasty cutlets of wheat gluten are made to closely resemble steaks and chops. Their unusual meat-like flavor is obtained from the broth in which they are packed and, TASTEX, our yeast and vegetable flavoring is the principal ingredient used in making this delicious broth.

CHOPLETS are highly recommended for those who because of religious reasons have meatless days and for those who do not use meat because of health principles.

THERE'S WORTH IN Worthington FOODS

CHOPLETS

(REG. U. S. PAT. OFF.)

CONTAINS WHEAT GLUTEN, MUSHROOM BROTH, EXTRACT OF BREWER'S YEAST AND VEGETABLES, WATER, SALT AND VEGETABLE PROTEIN DERIVATIVE (ARTIFICIAL FLAVORING MADE FROM WHEAT)

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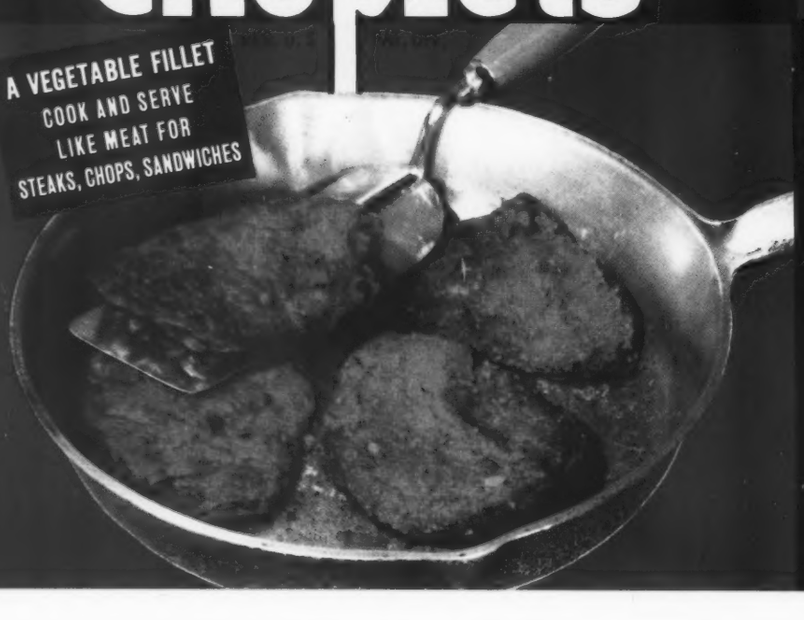
SPECIAL FOODS
WORTHINGTON, OHIO

Choplets

A VEGETABLE FILLET
COOK AND SERVE
LIKE MEAT FOR
STEAKS, CHOPS, SANDWICHES



THERE'S WORTH IN Worthington FOODS

CONTENTS 1 LB. 3 OZ.

Choplets

REG. U. S. PAT. OFF.

CONTAINS

Wheat Gluten, Extract of Brewers Yeast and Vegetables, Water, Mushroom Broth, and Salt.

•

SPECIAL FOODS
WORTHINGTON, OHIO

Deli

HOW TO PREPARE CHOPLETS

After removing CHOPLETS from the can, dip them into beaten egg and cracker crumbs, and fry them to medium brown. Or they may be fried plain just as they come from the can. CHOPLETS may also be broiled and served with gravy made from the broth in which they are packed. If you do not think this amount of broth will make sufficient gravy, use it as a part of the ingredients for making as much regular TASTEX gravy as is desired.

Delicious...
EASY TO PREPARE

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View of the old and new Choplets packages as they appear on store shelves. Note how the full-color pictorial conveys the impression of a tasty "meat" dish and greatly simplifies label problems.

pally from wheat gluten—are made to closely resemble ground meat, both in appearance and taste. The meat-like flavor is imparted by the broth in which they are packed and by various flavoring ingredients. "Choplets" may be dipped in egg and cracker crumbs and fried just like the meat chops they so closely resemble.

Prior to the war, most such high-protein products were consumed by persons who could not, or who chose not to, eat meat. Consequently, distribution was somewhat limited, and "Choplets" were sold almost exclusively through special health food retail store outlets.

The wartime meat shortage and high ration-point values brought "Choplets" out of the health-food store and onto the shelves of regular groceries, where they were forced to compete with other foods more attractively labeled. This helped to make a label change imperative. It was an opportunity for the alert health food producer not only to develop immediate new markets but to stimulate a permanent peacetime demand for his product, enabling it to compete with other protein foods.

The old and new "Choplets" labels are shown by the accompanying tip-ons. The full-color picture chosen for the front panel of the new label is an excellent example of appetite appeal, showing the crisp, brown "meat" being lifted out of the frying pan, read to serve. The back panel carries the suggestion a step further and shows the "chops" on a mouth-watering plate with a buttery baked potato, peas, tomato and corn-on-the-cob.

When the new label is contrasted with the old, the effect on the sales of this product can be imagined. If the war-gained business can be retained, the producers figure, this label will do the job. Even if the product is restricted to its former "health food" field, this label will put it head and shoulders over most competing products in the same class.

The same label technique probably will be applied to other of Special Foods' products—including "Choplet-Burger," "Proast," and "Numete,"—and it is entirely possible that it marks a new packaging trend in the health foods field.

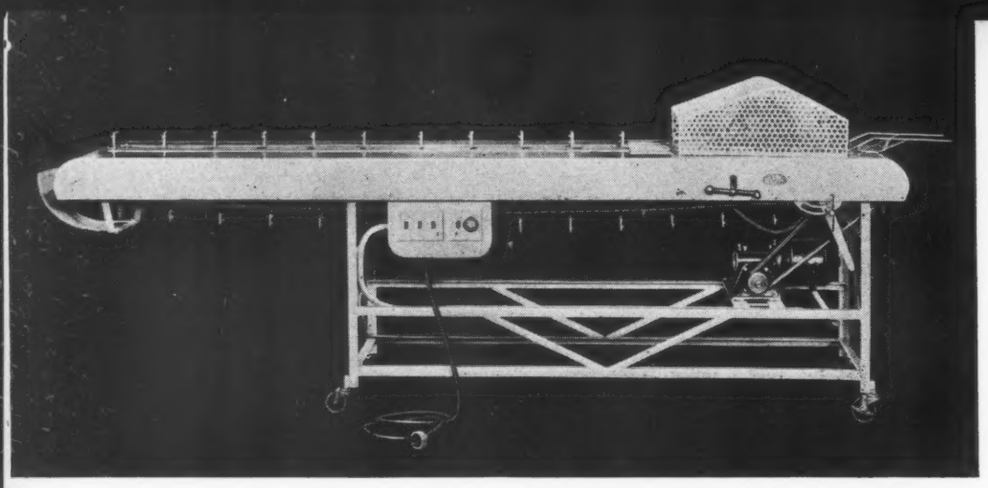
It is interesting to note from the "sell copy" on the "Choplets" label that merchandising effort is based entirely on appetite appeal of the product, with none of the eat-this-because-it's-good-for-you technique which still characterizes most health food labels. In fact, in the new label there is no reference at all to the special nutritional character of the product—just the simple statement, "A vegetable fillet," and a listing of the ingredients. This also may be an indication of a new trend in this field.

The back or consumer panel of the new label, in addition to providing mandatory information, gives directions for preparing and serving the product.

According to J. L. Hagle, general manager of Special Foods, the new label has met with enthusiastic response on the part of the company's entire distributing organization, and although the new package has been in use only a few months it is already credited with sales increases in both chain and independent food stores.

Actual samples of the old (above) and new Choplets labels. This is a striking example of trend toward putting appetite appeal in health food packages and playing down the "health" theme. Suggestion that this is a meat substitute is conveyed almost entirely by the pictures instead of text.

CREDIT: *Label designed and printed by The United States Printing & Lithograph Co., Cincinnati.*



Bag sealer

The Model "E" Krimpac machine developed by Pack-Rite Machines, Milwaukee, Wis., for heat sealing cellophane bags of candy bars, cookies and other single-unit or assembled items is said to offer advantages over the original Model "DL" in increased speed and flexibility to handle a wider scope of packages.

Improved detachable, interchangeable, stainless steel pushers and pusher wings, adjustable without tools, are special features of the new machine. They are said to enable the user to capitalize to the fullest on the 288 lineal inch per minute travel of the pusher chain.

The pusher post, equipped with snap-lock clip, is quickly snapped under socket links spaced at 3-in. intervals on the pusher chain. Thus the posts can be applied at any 3-in. interval or at denominations of 3 in., such as 6 in., 9 in., 12 in., etc.

The pusher wings, obtainable in 2-in. and wider spreads, have snap-lock clips which are simply snapped onto pusher posts. A 2-in. pusher wing will push packages up to 4 in., more or less. If longer packages are to be run, wider pusher wings can be obtained. The pusher wings do not necessarily have to fit the package; all they do is push it across the working surface of the machine. A 9-in.-long package can be handled, therefore, by a pusher wing spread of approximately 6 in.

The machine heat seals the bottom of the package, krimps both ends and seals a small space at ends of the package between bottom and krimp; it uniformly trims krimped ends and automatically discharges the package from the machine.

The only operation required of the operator, it is said, is the placing of the sheet of cellophane around the package and then feeding it into the machine. Because of the small bottom seal required and the krimped ends of the package, it is claimed that the use of this machine results in a considerable saving of cellophane.

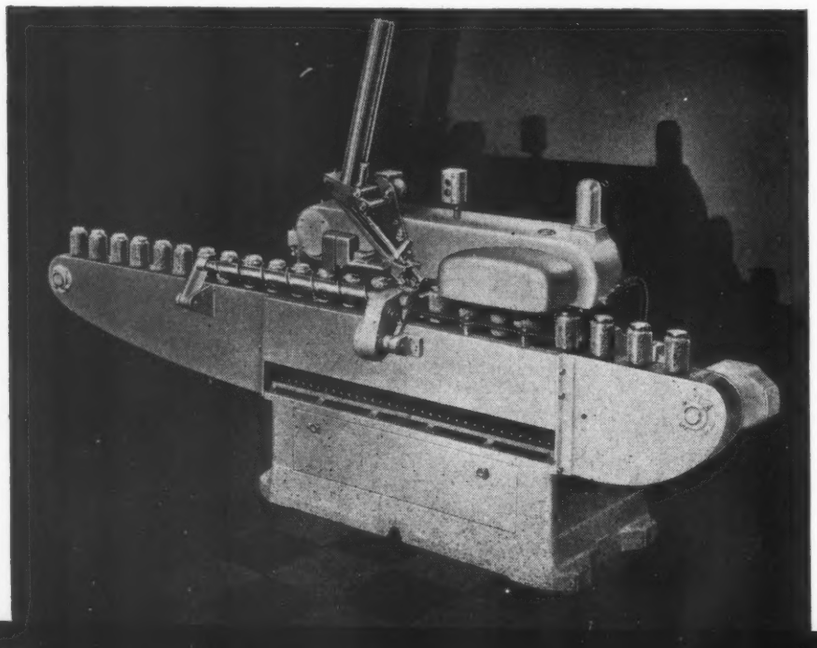
The Model "E" Krimpac machine is obtainable in various lengths from 4 to 14 ft. and in 110 volt, a.-c., 60-cycle-single-phase. If portability is desired a set of brake casters is available.

New Machinery

Vacuum capper

High-speed vacuum sealing of glass containers with superheated dry steam is introduced by the Steriseal machine developed by the Anchor Hocking Glass Corp., Lancaster, Ohio. Completely automatic, it is said to eliminate objectionable vapors and mechanical noises.

Caps are loaded directly from a carton into the magazine and each cap is delivered to the container finish at the moment the superheated steam is introduced into the headspace. The seal is completed at the end of the chute. A sealing belt seats the closure on the glass finish. The package and the sealing area are in full view during the entire operation. Visual proof that a vacuum seal has been obtained on products that trap air is instantly provided by a vacuum visualizer light.



Only a small volume of low-pressure steam—under 20 lbs.—is required. Since this superheated steam is concentrated inside the package, the operation, it is said, is neat and clean and is not affected by direct drafts. An electrical-resistance type of heater unit superheats the steam, freeing it from condensate.

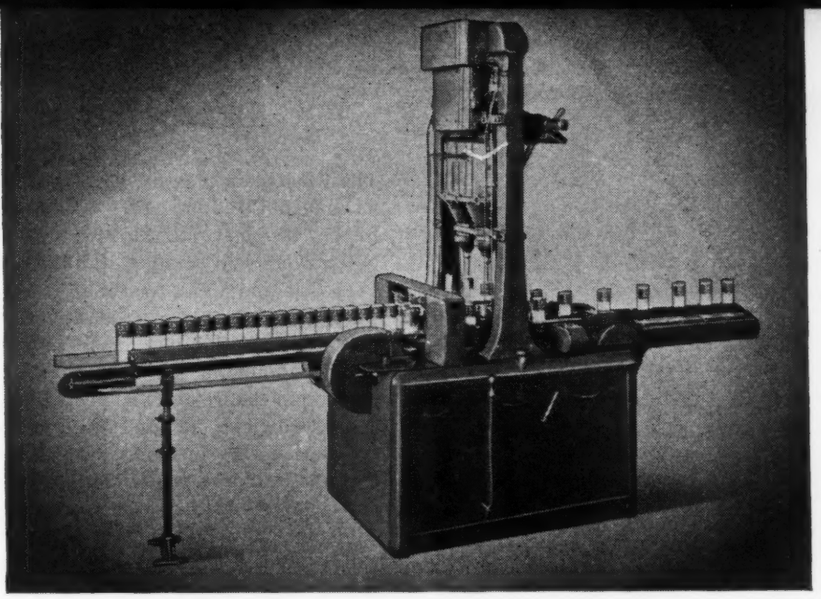
An interesting feature is the use of a Helicoid timer and star wheel combination to synchronize and feed containers to and from the sealer. This eliminates the need for replacing jar-drive belts commonly used.

Capable of all commercial speeds, the machine has a very flexible sealing range. It can accommodate a cap-size range of from 27 to 90 mm. and jars with heights of 3 to $8^1/_2$ in. and diameters of 2 to 4 in. Special equipment enables the machine to handle other jar diameters. Adjustments are said to be so simple that they can be made by unskilled operators.

(*Page 170*)

New Machinery

Packer-filler



Newest development of U. S. Automatic Box Machinery Co., Inc., Boston, Mass., is the Model JK Automatic Twin-Station Packer-Filler which operates either as a volume filler or a gross weigher and is designed to handle powdered, granular and paste materials of almost every description at a speed up to 60 containers per minute.

The streamlined design of the new machine permits complete enclosure of all mechanism below the feeding table, which is claimed to prevent any spillage from penetrating into the working mechanism.

Special features, according to the manufacturer, are the dust-collecting system which removes all loose material during the filling operation; drip-free, shut-off gates; a vibrating filling platform which increases the range of type and character of materials that can be handled; self-lubricating bearings, and an adjustable baffle plate in the hopper.

The machine has a hand control for quick adjusting of weight variation resulting from a change in the density of the product. By simply turning a knob, control of weights and quantities of material can be accomplished without tools of any sort, while the machine is in actual operation.

When used as an automatic volume packer the empty containers are elevated, causing the actual filling to take place under the amount of controlled pressure suitable for the type of material and the size of container into which it has to be packed. This same principle applies when the machine is equipped as a packer-weigher, except that the main portion of the contents is packed under pressure, the remainder by a careful weighing for accuracy.

A similar four-station filler known as the Model JN operates at a speed up to 120 containers per minute.

Band sealer

The new adjustable-type machine developed by Package Machinery Co. Springfield, Mass., is designed to seal a band of tape around the lids of various-sized cans, jars and containers four times faster than by hand apply an opening tape at the same time

To prevent the sticky tape from clogging or adhering to the machine parts as it is fed to the container, the tape is held, as it is fed from a spool, in exact position against a bar by means of air suction.

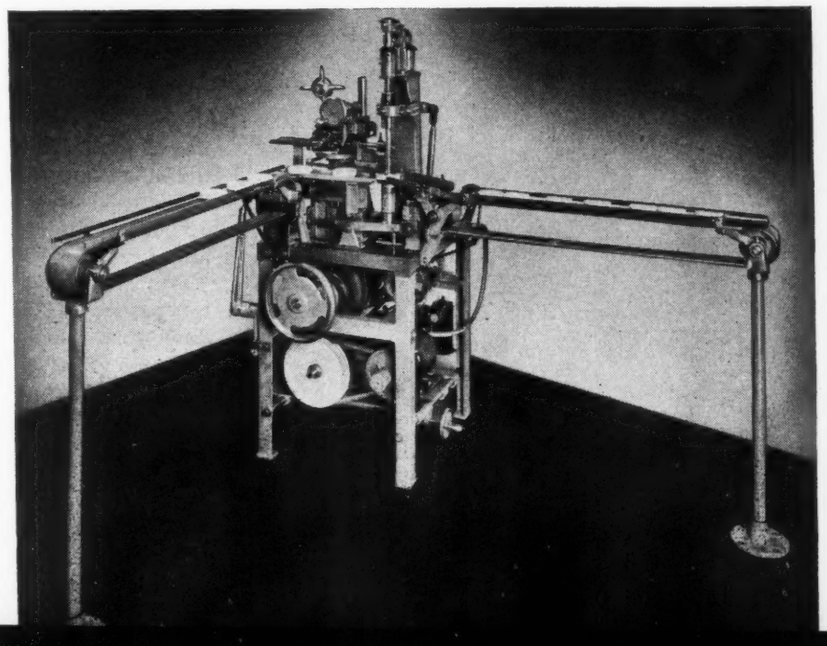
The cans or containers are fed into the machine on a conveyor belt. Each in turn is picked up by lugs and fed onto a turntable device. This places the container in juxtaposition to the tape. The container then makes one complete revolution, pulling the tape from the spool. At the end of the revolution an automatic knife cuts off the tape and the next container bumps the taped can onto a discharge belt.

The opening tab is created by automatically placing a small paper strip on the sticky side of the tape at predetermined intervals, depending upon the circumference of the can or container. The paper stop is fed vertically onto the tape as it is unwound from its spool. The tape is severed so that the paper stop juts out a trifle.

The machine will take a round or square tin, glass or other type container ranging in diameter from 2 to 4 in. and in height from $\frac{1}{2}$ to 6 in.

Small and compact, the machine is 21 in. wide, 23 in. long and 50 in. high, exclusive of in- and out-feed conveyors.

Used principally for sealing containers of coffee, sugar, tobacco and drugs, the tape is applied at the rate of 25 per minute. By hand, the rate of application is said to be 6 per minute.



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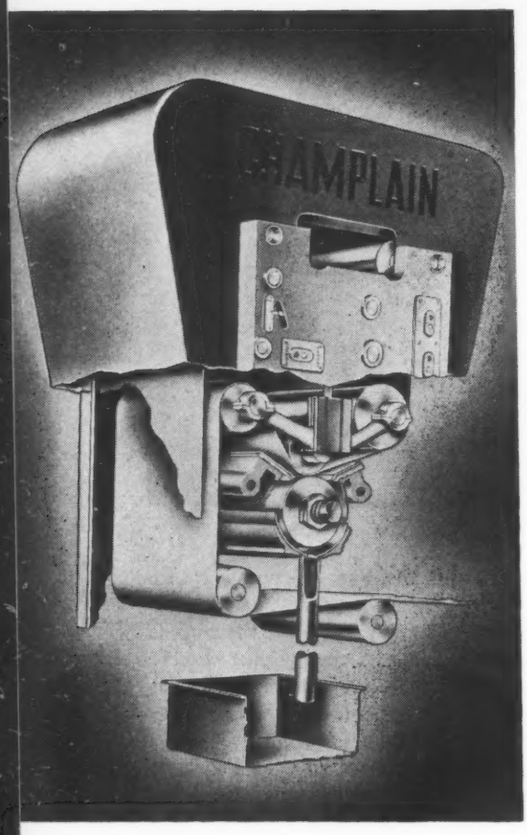


Roto for package printing

The Champlain Speedry developed by Champlain Co., Inc., New York, is said to be the first standard-built rotogravure press in printing widths of 8, 14, 20, 26 and 36 in. for the packager, the package printer and the converter.

Features of this new press are the Speedry fountain for instant-drying inks, rapid change-over, no make-ready and flexibility in size of printing cylinders. The manufacturer claims that these improvements increase output, reduce handling, cut waste to a minimum and reduce floor area needed.

Its patented enclosed ink fountain permits the use of highly volatile, instant-drying gravure inks, which in turn reduce handling and increase speed. Side cylinder and tank removal system do away with the necessity for fountain adjustments; change-over of color and design is accomplished simply by removing and replacing the cylinder and linking mechanism.

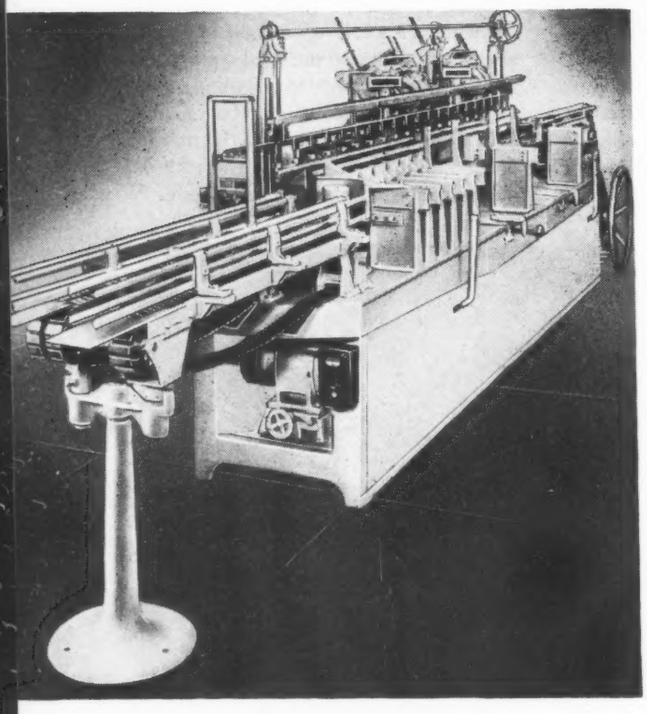
Impression pressure is controlled by a motor and a calibrated gage, which is standard equipment on the new press, or by hydraulic means on the larger presses. Make-ready is a matter of pushing a button until the required amount of pressure is registered on the gauge. Impression pressures are predetermined according to the material.

Printing cylinders are not limited to a fixed circumference but vary within a wide range between the minimum and maximum size, so that production of different sizes of work is possible.

Other improvements which are a part of the press as standard equipment are: the 360 deg. running register control; the micro-sensitive variable feed, tension and pull apparatus; the positive production speed indicators; visible gauges for all controls and central control panel.

The 360 deg. running register control with motor per color is operated by a push button for each color, with the visible gauge and central control panel at the delivery end of the press. Register is easily obtained by making minor aligning adjustments by push buttons. Once attained, register is held by the micro-sensitive variable pull unit.

New Machinery



Bottle labeler

The new World Bee-Line labeler developed by the Economic Machinery Co., Worcester, Mass., is a completely automatic machine designed to apply front labels, front and back labels and neck labels to round, square, flat, oval or panel bottles.

Equipped with a simplified self-contained feed mechanism, the machine has an improved drive which pulls the containers through the mechanism instead of the usual method of pushing them. A new type of mechanical spotting device operates positively and directly from the bottle.

The bottles may be controlled, it is said, to prevent turning as they are indexed through the machine when special or modernistic shaped containers are involved. Each bottle receives three controlled-pressure wipes.

The main drive of the labeler is equipped with an automatic overload release clutch. The high-production two-stage model has a new type, double-discharge conveyance with a positive drive.

Bottles go through the labeler at a rate of one per second—or two per second for high-production two-station models—without traffic jams, collisions, detours or hold-ups, it is claimed.

The Bee-Line operates with finger-tip control for starting and stopping and is provided with four starting handles.

The manufacturer claims that the many improved features assure clean, firm precise labeling ideal for lightweight glass.

Feed-measure tape dispenser

A dispenser for pressure-sensitive tape that can be pre-set to feed measured strips as required has been introduced by Better Packages, Inc., Shelton, Conn., makers of gummed sealing tape machines.

According to the manufacturer, the dispenser was designed after careful study of the motions used in applying tacky tape to a package and enables speeding up of package sealing operations by as much as 60%, with noticeably less fatigue to the operator.

Available in two models, the larger "Big Inch" dispenser takes standard 3-in. core rolls, while the smaller "Little Inch" takes 1-in. cores. Each can be preset to dispense $^3/_4$-, 1-, and $1^1/_4$-in strips; the larger size can also dispense $1^1/_2$-in. lengths.

Convenient to operate either from a sitting or a standing position, the tape is dispensed with one hand while the other is free to hold the package. For the "thumb adhesion" method of dispensing, recommended for those operating from a sitting position, the shuttle and tape are grasped between thumb and finger, tacky surface under the thumb. The shuttle is pulled upward until it stops, measuring the strip, when the operator releases the shuttle, allowing the tape to adhere to the thumb. Tape is cut off with a sidewise motion as the hand moves toward the package and the tape adheres to thumb in correct position for fast application under index finger. Used from a standing position, the tape adheres lengthwise of the index finger tip with half the strip projecting. By merely crooking the finger, the end of the tape is under the thumb ready for instant application.

Although the machines have a vertical pick-up, their weight is great enough to keep them firmly in position during operation. It is claimed that they take less counter space than other dispensers. Complete enclosure of the roll of tape protects it from dirt and damage. Use of the measured strips instead of haphazard guessing is said to make possible economies up to 50% in the use of tape.

New Machinery

Vacuum filler

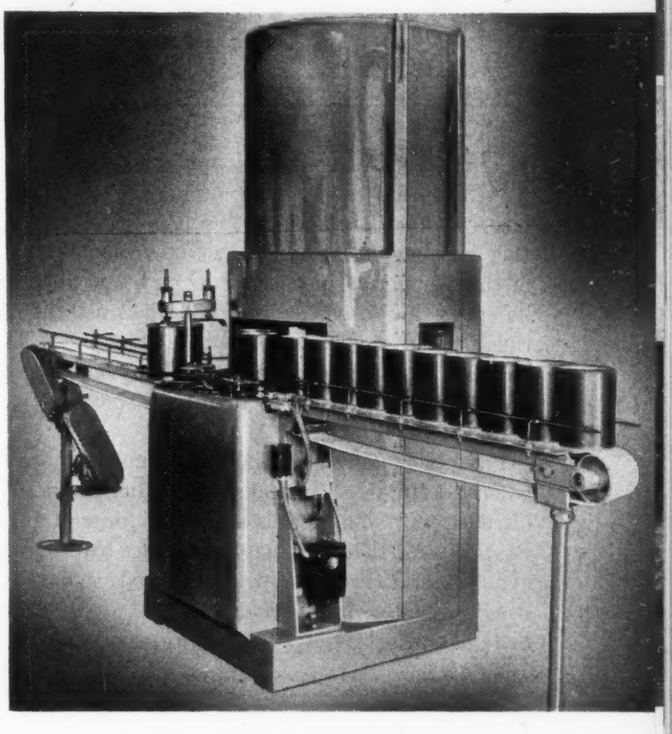
A new Carter vacuum filling machine is said to provide a dust-free method for packing finely powdered dry materials in all sizes of small containers as well as in large drums and barrels.

Manufactured by the Carter Engineering Co., Danville, Ill., the equipment is said to operate speedily in packing materials solidly in the container without agitation and removing from the air the small amount of dust that passes through the screens before it is released.

Airtight containers which withstand high vacuum, such as glass bottles and metal cans, are filled by evacuating the air in the containers and causing the material in the hopper to flow into the packages. The filling head is designed to make an airtight seal at the container mouth. Air is evacuated through two screens located at opposite sides of the filling head. Air is removed through one screen and admitted through the other. This process, which in most cases is repeated four times, cleans the screens and helps pack the material. The vacuum can be adjusted to suit the product.

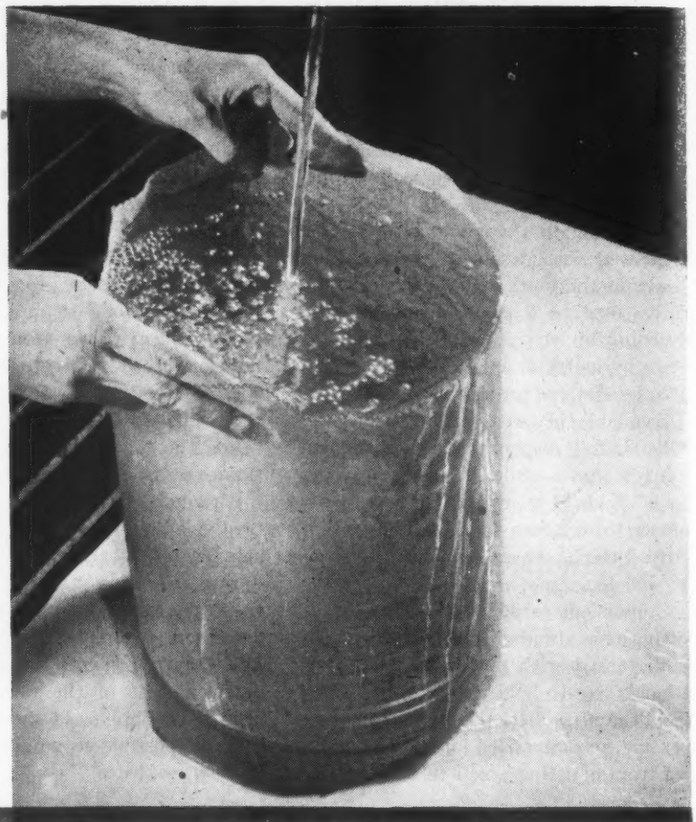
Containers which are not airtight or cannot withstand high vacuum are placed in a shroud for filling. In this case, the outside and inside of the container are both under the same pressure.

A single-head unit can fill 10 to 12 containers per minute. Another model, an 8-head rotary filler, can pack 45 1-lb. or 100 1-lb. cans per minute. Others have a speed ranging up to 300 per minute.



Refrigerated air shipment of farm produce opens up entirely new packaging requirements—whether it be for a simple wirebound crate for roasting ears or for a decorative consumer carton for pre-packaging.

PHOTO COURTESY WIREBOUND BOX MFGRS. ASSN.



The commonest of packaging materials now appear with new and improved properties. Wet-strength treatment with urea-formaldehyde resin gives remarkable qualities to the familiar kraft grocery bag.

PHOTO COURTESY RESINOUS PRODUCTS & CHEMICAL CO.

*Future in foods . . . a survey of packaging trends**

New types of containers and packages, and materials for their construction, are in prospect for postwar food marketing. Technological advances in this field have been rapid in recent years. Experiences of the war period in packing for military purposes will be applicable to packaging for civilian use when materials and labor become available. The effects of these changes in packaging are likely to extend beyond the food-marketing processes to other aspects of our economic life.

Food packaging in this country has long been characterized by great variety. Individuals and localities have chosen the materials and types for containers and wrappers for their products according to the materials available and their own ideas of a good package. Some standardization has been accomplished by State and Federal laws; wartime conservation regulations brought further temporary limitations as to the size of wooden containers and cans. Both economy and order in marketing suggest that it is desirable that the wartime standardization program be continued and enlarged.

The necessity for preparing huge quantities of goods for military use and shipping them long distances overseas under unfavorable conditions stimulated the production of container and package materials and types to meet exacting conditions of shipping and storage as to temperature and humidity. New container materials such as V-board, and new waterproof lacquers, adhesives and plastic films have helped to make possible the provisioning of our military forces in far-off places.

Packaging of food for civilian consumption during the war meant switching from the use of one material to another for the manufacture of containers and packages, as material shortages occurred. Each shift was preceded by tests to make the scarce material go farther than formerly. The result is new knowledge of the

* Condensed by special permission from the report "Postwar Packages and Containers for Marketing Foods," by Delbert R. French, Agricultural Economist, Bureau of Agricultural Economics, U. S. Dept. of Agriculture.

Feeling that technological advances in food packaging will lead to far-reaching changes in marketing practices, the Bureau of Agricultural Economics has conducted a comprehensive survey of packaging developments and trends affecting agricultural products. This is a condensation of the report by Delbert R. French, just issued.

limitations and possibilities of materials that will be of great assistance in packaging.

Difficulties in finding familiar foods in familiar packages have had the effect of inducing experimentation on the part of consumers. It is a safe assumption that this enforced experimentation will make it easier after the war for producers and packers to market new products in new wrappers under new labels.

New requirements

The new packages for foods will appear as the result of influences operating from several sources. The packager, wherever he may be in the marketing channel, and the retailer will have certain requirements which the new packaging must meet. They will expect the package to protect its contents until delivery to the consumer. Marketing agencies will attempt to hold down the cost of packaging where it is necessary to enter into price competition. The costs of "overpackaging" will be avoided by substituting less expensive, light-weight materials when they are demonstrated to be efficient. The battle of brand names will be intensified because of the good-will value of the new, efficient and decorative packages which are becoming available.

Force of self-service stores

The probable expansion of self-service merchandising will be a strong force for better packaging of food products that have already gone from "bulk" sales into packages. The package is the salesman in the self-service store, and there will be no sentiment against exchanging one salesman for a better one. Also, self-service methods will exert a strong pressure toward prepackaging of fresh fruits, vegetables, meats and other produce now in bulk.

The housewife will influence the appearance and materials of postwar packages. Discriminating shoppers will favor the product that is not overpackaged; that is, they will expect that the wrapper shall not add unduly to the cost of the purchase. This discrimination is particularly to be expected in the many cases in which the brand of product is not sufficiently differentiated from other brands or other products to be out of competition with them. Shoppers will look for packages that are convenient to handle and to store. They will expect the package to perform its function of preserving the factory-fresh qualities of the food.

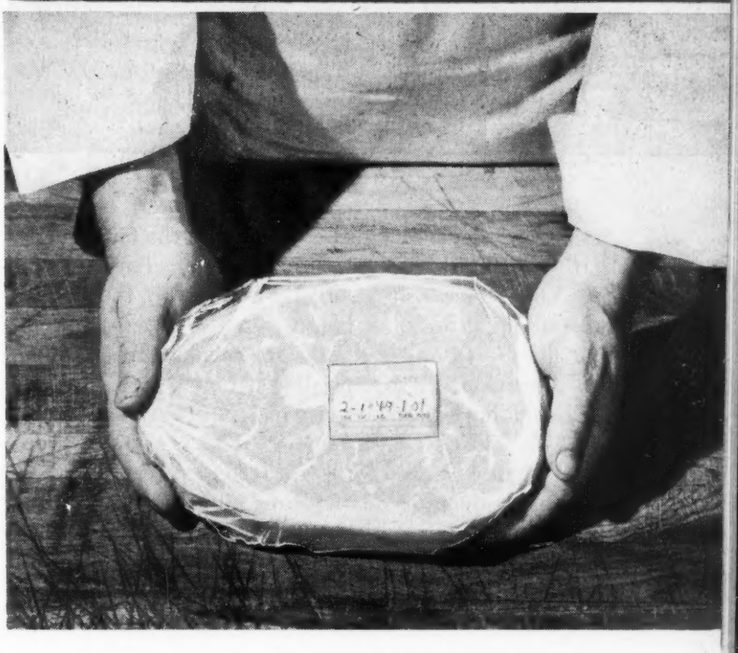
Certain other factors will influence the consumer's choice of packaged goods. Improved transportation will carry shoppers to stores with convenient displays. Practically all goods including fresh foods will be prepackaged. A probable increase in the proportion of small home-dwelling units will result in limited storage space. This will encourage small-lot purchases. The probability that more than the prewar percentage of women will work outside the home will increase the demand for ready-prepared foods. An increasing number of these foods are likely to be in frozen form, and these require packages that offer proper protection for preserving in dry, zero storage.

Choosing package type

In choosing the type of package and the materials from which it is to be made, the packer will need to consider the nature of the product to be packaged, conditions under which the food is to be marketed, types of materials available for manufacture of the package or container, and the extent to which the package should be decorated for customer appeal.

The rugged qualities of wood along with its relative resistance to changes in temperature and moisture have long made it a highly useful material for boxes and crates used as shipping containers. However, corrugated and solid fibre shipping containers supplemented scarce wooden boxes widely during the war and are likely to continue to do so. Fibreboard is light, yet has sufficient rigidity to withstand the shocks met in domestic shipments of food products. V-board

Pre-packaging of fresh meat cuts for self-service, a practice gaining headway just before the war, is due for great expansion in the postwar period as new transparent wrapping materials become available.



Frozen foods, all evidence indicates, will be an important field of new packaging developments. Fibre cans with metal ends, like those shown, filled and closed by special machinery, are among new items.

TOP PHOTO COURTESY AMERICAN CAN CO.
BOTTOM, COURTESY CONTINENTAL CAN CO.

has carried shipments during the war to the far corners of the earth for military use. Continued use of V-board for overseas shipments is likely. Also, the water-resistant qualities of V-board lead to the expectation that fibreboard crates for the shipment of fresh fruits and vegetables will soon become common.

The folding box, made of paperboard especially prepared for folding flat, serves as the package wrapper for a considerable part of the foods on grocery shelves. This material can be adapted to a multitude of uses by the process of lamination which consists of combining the paperboard with sheet materials by adhesives. Expanded use of folding boxes is likely for staple groceries, and in addition many new adaptations of folding boxes to the packaging of fresh fruits and vegetables can be expected.

Barrels made of wood are of three types: Tight barrels used for liquids, viscous substances and solids; slack barrels used as containers for such foods as fruits, cookies and crackers; and beer barrels. During the war barrels did double-duty in carrying their regular products and in substituting in certain uses for steel drums.

Three types of drums

Three new types of drums—those produced from aluminum, plywood and fibreboard—offer possibilities for wide use. Aluminum will be cheaper than formerly, and is likely to find use in containers for many kinds of edible fats and oils. New methods of manufacturing plywood drums have been developed which will probably make them cheaper for use in the shipment of dairy products and other foods needing extra protection. Drums made of fibreboard are now finding extensive uses for jams and other viscous foods, powdered foods, and miscellaneous foods such as nuts, meats and fresh fruits.

Where a rigid container is not needed, particularly for retail packaging, flexible sheet-packaging materials are adequate for many food products. Of the three common types of such materials (paper, transparent film and metal foil), paper, in the form of kraft wrapping paper and bags, has long been most widely used and it will continue to be important in the grocery trade. Vegetable parchment has long served as a wrapper for butter, and is used successfully as a wrapper for fresh vegetables where tensile strength must be retained when the paper is wet. Glassine is a water-impregnated paper, transparent, with a shiny surface. It is resistant to grease, but it can be treated with lacquer to make it even more resistant to grease, water-vapor, gas and odors, and to make it sealable with heat.

Plastic films

The transparent plastic films, which have given excellent protection to food and metallic equipment shipped overseas during the war, are likely to find greatly increased use in postwar marketing of food. The three general types of these films have many characteristics in common; they are transparent, resistant to grease, generally odorless and tasteless, and maintain their flexibility under extremes of temperature. Cellulose films are not all moisture-vaporproof in single sheet form. This moisture permeability is desirable in wrapping fresh products, as it permits the passage of carbon dioxide and of moisture-vapor which would otherwise cloud the inner surface of the film. The vinyl films and the rubber-base films both have high resistance to moisture-vapor. This makes them excellent wrappers for substances needing such protection.

Metal foils are likely to be more widely used in food packaging now that the war is over. They offer many of the protective qualities of the plastic films. In

addition they are lightproof and have a decorative metallic brightness to offset, for some products, the disadvantage of opaqueness.

Versatility of bags

Bags of three materials provide a versatile type of container for shipping and for retail purposes. Burlap bags were superseded to some extent during the war by cotton and by multiwalled paper bags, although the rugged qualities of burlap bags will keep them in use for some purposes. Cotton bags serve well when appearance is important. Paper bags and paperboard boxes are supplementing cotton bags to some extent for retail packaging of sugar and flour. The new multiwalled paper bag is increasing rapidly in use, both as a shipping container and as a retail package. Almost any essential characteristic, even waterproofing, can be added to multiwall paper bags by lamination. Open-mesh paper bags, which cost little, are rugged enough to carry weights up to 100 lbs. and offer good display possibilities, are almost certain to be used increasingly in mass merchandising.

Around 2,000,000 tons of steel for cans were used for food canning in 1940, and because of the versatility of this container, the prewar use of tin cans may be exceeded in postwar years. Because of the tin shortage, thinner tin plate was used during the war, and fibre canisters and drums as well as glass bottles were substituted for some uses of tinplate. Aluminum alloy cans have been produced on an experimental basis during the tin shortage. The four-way competition among cans and bottles made from tinplate, fibre, aluminum and glass may set new standards in cheapness and service industries which preserve food when materials again become abundant.

The introduction of a packaging program for foods which have formerly been sold in bulk will benefit consumers as well as food merchandisers. At least a portion of the cost of packaging will be offset by other savings. Prepackaging should make possible a net saving in time, less waste from goods in packages and less labor required for handling. Producers and packers may obtain the consumer's good will by delivering their product in better condition and more convenient form. The increased opportunities for selling a labeled product are obvious.

Packaging to reduce costs

Improvement of packaging materials and methods should contribute materially to the extension of self-service in food retailing, with consequent reductions in marketing costs. The handicaps under which a modern supermarket would operate may be imagined if crackers, coffee and tea, dairy products and other items were still handled in bulk as in former years. Prepackaging of meats, fruits, and vegetables in the postwar years should contribute fully as much to efficiency in retailing by these modern methods.

Diet in this country has been greatly enriched, on a year-round basis, by the means which have been developed to preserve food for consumption in off seasons. We depend on canning to provide a constant supply of seasonal fruits and vegetables. Indications are that freezing will become of comparable importance as a method of preservation, facilitated considerably by the development of various moisture-vaporproof packaging materials.

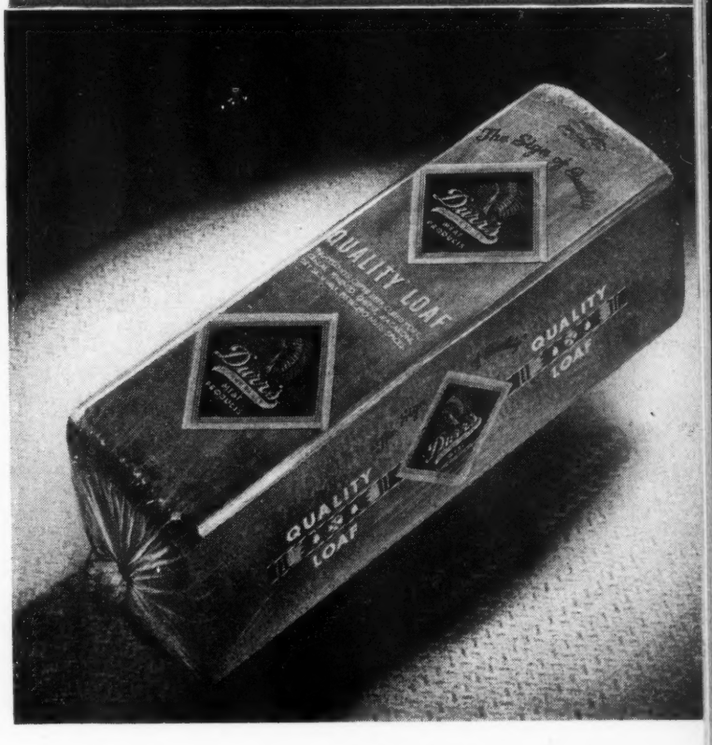
Widespread efforts to extend our markets for food products, both domestic and foreign, can now be expected. Packaging, by making many foods more attractive and convenient, can aid materially in furnishing the needed buying incentives.

Expanding markets

The packer who would expand his domestic retail market will find that new packaging materials and methods can help in merchandising programs. Self-service retailing encouraged customer investigation of products before buying. Such shopping methods tend to break down old prejudices, and, coupled with attractive packages and informative labeling, they make easier the introduction of any new products to the housewife.

In trying to develop foreign markets for his products, a postwar packer must meet competition from foreign producers and packers and from other exporters in this country. The packer should know his market and

Colorful printed wraps of transparent film offer merchandising advantages for meats, cheese and many other food products. New and better films, with the right properties for each product, are available.



should pack for the proper degree of physical hazard so that the goods may arrive in good condition. New, light-weight containers will help to keep freight costs low and customs duties low in those countries where duties are levied on gross weight. In foreign trade the problems of package labeling arise in even greater numbers than in domestic trade.

Citrus fruits

In marketing citrus fruits the trend in Florida and Texas is toward the wire-bound $1^{3}/_{5}$ bushel box and away from nailed boxes, apparently because it is increasingly difficult to obtain the latter. California still uses the nailed box, but there are indications that lumber for such boxes may become scarce in that state. Considering the trend toward consumer-unit packaging in many lines of food, it is to be expected that the use of mesh bags or other consumer-size containers may increase for citrus fruits, in California as well as in Florida and Texas.

The apple container problem is complicated by the large number of sizes and types in use in the East, while in the Northwest there is an approaching shortage of timber suitable for standard apple boxes. Several types of apple containers have been developed which can be constructed from materials less scarce than those required for the standard apple box. Molded pulp, for example, is likely to find wide acceptance for this use in time to come.

Indications on every hand point to increased prepackaging of fresh vegetables for retail sale in the near future. Suitable transparent films will be available. Packaging in the producing area will offer certain advantages, including the preservation of the highest food values of the products and the cutting of loss due to handling.

Prepackaging of fresh vegetables involves possible cost increases, or at least a shifting of the point in marketing channels at which the costs are incurred. On the other hand, savings which would mean a net gain for the marketing process may result from prepackaging fresh vegetables as compared with sales from bulk. Possibilities include use of machinery, elimination of excess bulk, complete protection of the product, saving in food values and customer satisfaction.

PHOTO COURTESY PACKAGING MACHINERY CO.

Pre-packaging of fresh fruits and vegetables is an important new trend which eventually will carry packaging right back to the grower himself. These are typical transparent packages for self-service sale.

Air shipment

The shipment of fresh products by air is certain to increase in volume as soon as cargo planes are available. Low tare weight is a first necessity in containers for air shipments. Sufficient rigidity to withstand stacking is also necessary. As fresh products are being shipped dry, containers that will stand water-soaking are not necessary as is the case with railroad shipments packed in ice. However, a light-weight veneer crate which would permit precooling of vegetables with water has been manufactured to compete with the fibreboard crate commonly used in air shipments of produce up to this time.

The prepackaging of fresh meat, with a cardboard "boat" underneath, and wrapped in transparent film, is likely to become commonplace particularly in self-service stores, in the near future. Ease in selection is likely to put meat into packages as it has so many other foods. Several satisfactory transparent films will be available for meat packaging which will hold them satisfactorily for several days.

Literally hundreds of frozen foods, including many precooked, are promised for immediate postwar sale. It has been found that a requisite of frozen food preservation is protection against loss of moisture-vapor through evaporation in low-humidity storage rooms. Many types of wrappers will soon become available to prevent loss of any essential moisture as well as guard the products from freezer burns.

Milk containers

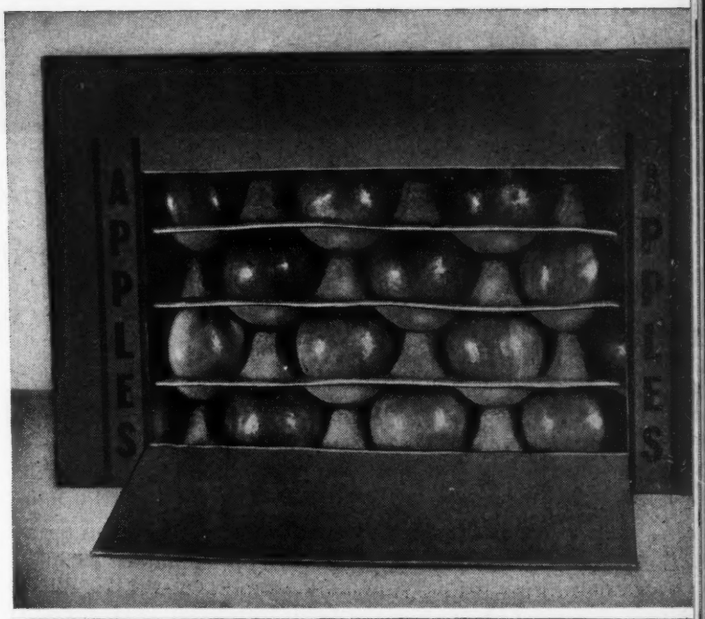
Threetypes of containers for fluid milk will compete—each with its advantages and disadvantages; the round bottle, easy to wash and easy to handle; the square glass bottle, occupying only about three-fourths as much area as the round bottle of the same capacity, and with its own claims as to ease in handling; the paper carton, light in weight, compact in area occupied, and requiring no washing, as it is not re-used. The light-weighting of glass containers is sure to be extended to milk bottles more than ever.

In its former widespread use as a container for ship-

ment of butter from the creamery to the retailer, the butter tub has been partly replaced by a parchment lined fibreboard box for the latter part of the trip, from the printer to the retailer. Now the box is also taking over the job of carrying the butter from the creamery to the printer.

Changes in containers and wrappers for cheese accompany the widespread change from the sale of raw cheese to the sale of processed cheese. The fibreboard drum has been largely replaced by the fibreboard box as a container for shipping the natural cheese from the processing plant to the retailer, the drum which now carries the cheese from the cheese factory to the processing plant. For wrapping the retail packages, metal foil, papers and films, sometimes laminated, provide excellent protection.

Shortage of cases for shipping eggs during the war has resulted in the re-use of wooden cases on a wide scale, and has permitted trial of some 10 types of fibreboard cases. Although each type of case has merits, the case or cases with the greater advantages remain to be determined by controlled tests being carried out at the present time.



New shipping packs to carry tree-ripened fruits to market in good condition are the subject of much research. These molded-pulp trays, used before the war for apples, are likely to find wide acceptance.

Marketing developments

Causes seldom work independently toward changes in the field of food marketing. New marketing developments usually represent the joint result of changes in a number of variables. When crediting new developments in food packaging with responsibility for certain prospective shifts in marketing methods, therefore, it should be realized that these packaging changes can become effective only in a market situation where other factors are operative.

Conclusions

It is anticipated that, now the war is over the following points will hold true in the food packaging picture:

(1) Prepackaging of foods formerly sold from bulk will greatly expand. This trend will probably encompass fresh fruits, vegetables and meats. The cost of packaging per unit of product may be increased as a result of new packaging, but this will be at least partially offset by savings in labor, waste and transportation. Other compensating returns will accrue to producers and consumers as well as to the retail marketing agencies.

(2) As more efficient packaging materials will be available, the tendency will be to package a larger proportion of foods at or near the producing area in the case of fresh products, and in the plant of the manufacturer for processed foods. Economies in handling and improvement in quality will undoubtedly be the result of this increased efficiency.

(3) New kinds of materials and new types of containers will accompany the use of changed transportation equipment. For instance, lighter and less expensive containers for shipping fresh vegetables dry-pack would go along with the installation of dry refrigeration equipment in refrigerator cars. With lighter containers, pay loads that make possible the installation of dry refrigeration in trucks for highway transportation will be feasible.

(4) The invention of transparent films and other materials which permit the prepackaging of fresh products will also call for an extension of refrigeration toward the producing area packing house, if not into the field, and also will call for additional refrigerated cases for displaying fresh products in the store.

Importance of store design

(5) Designers of store buildings and equipment will need to take into consideration the increased sale of packaged goods especially fresh foods, and will need to plan for proper display space for these fresh foods in refrigerated cases.

(6) Packaging will become an increasingly important element in marketing as technological advances in processing and merchandising new products come into common use, and as an increasing proportion of retail trade in foods is handled by the self-service type of super market.

(7) The wartime development of new kinds of packaging materials and methods, in conjunction with other technological advances, will materially affect the competitive position of prewar types of packaged foods, and will result in important shifts in the proportions of all food sold fresh, canned, bottled and packaged in other containers.

Furniture protection

. . . New performance standards and packing methods to cut down the staggering total of $5,500,000 lost during the year 1945 through freight damage claims.

Any packing method which provides additional protection for furniture in transit has the enthusiastic interest of shippers, carriers and consignees.

According to figures supplied by Albert L. Green, special representative of the freight claim division, Assn. of American Railroads, claims for loss and damage on furniture amounted to approximately $5,500,000 during 1945. Since only around 5% of this amount represents loss claims, the staggering cost of damage to furniture in shipment is readily visualized.

Mr. Green points out that a combination of conditions underlies this situation. Prominent among them are the difficulty of obtaining proper packing materials, in view of the inadequate supply of acceptable lumber, below-standard packing of furniture by inexperienced employes, and sub-par handling of shipments by green help—all factors either created or made more acute by the war.

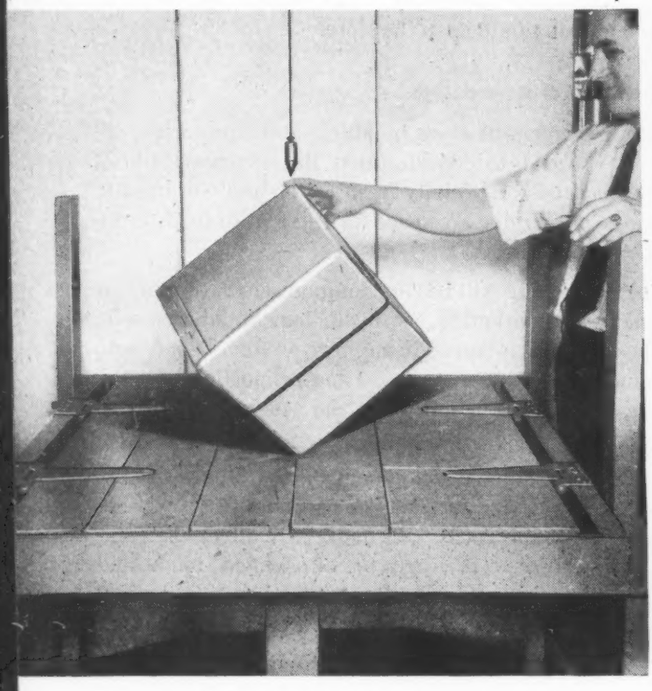
Research on furniture packing

The need for a higher standard of furniture packing is emphasized by the large number of companies in the field. There are more than 4,000 furniture manufacturers in the United States, including a great many small organizations whose annual sales volume runs between $100,000 and $1,000,000. The subject of improved furniture packaging is currently being studied by the National Furniture Traffic Conference, Gardner, Mass., which has the active support of industry trade associations and individual companies, as well as shipping interests. During 1945, the conference staged ten "clinics" at which good and bad features of various furniture packs were reviewed. Seven sub-committees are now assembling information on shipping different types of furniture and preparing specifications which may either supplement or become a part of the shipping classification.

In cooperation with the freight classifications committee, the freight claim division of the American Assn. of Railroads has developed a tentative standard of performance for corrugated fibreboard shipping containers for novelty furniture items (gross weights up

1—Divided table-top device with trap, standardized by TAPPI, is used for testing. It's simple to construct and costs about $25. **2**—*Furniture pack released for one of cycle of 12-in. drops recommended by specs.*

1



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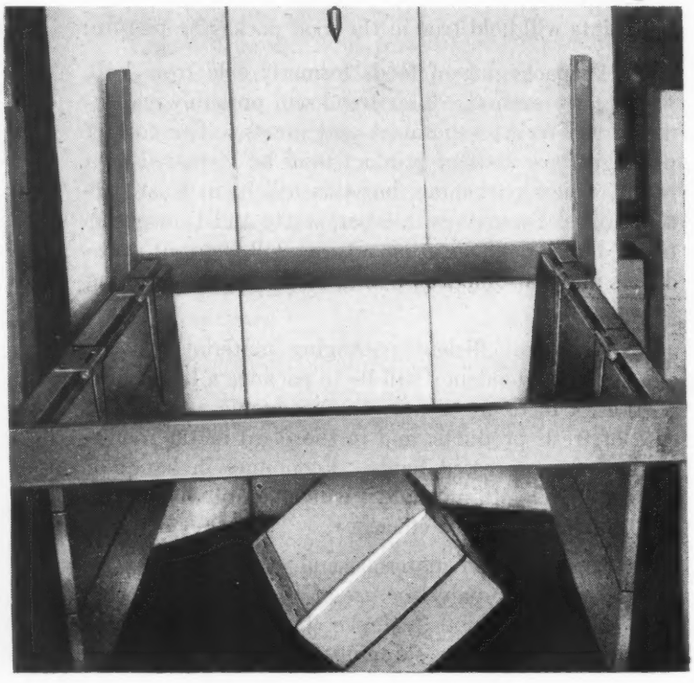
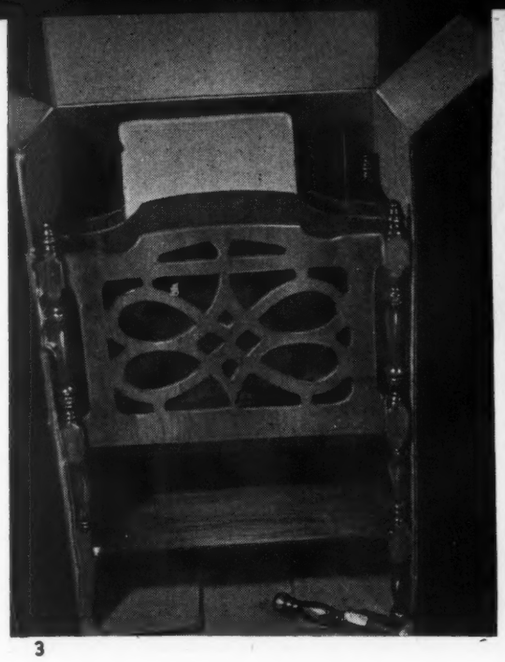
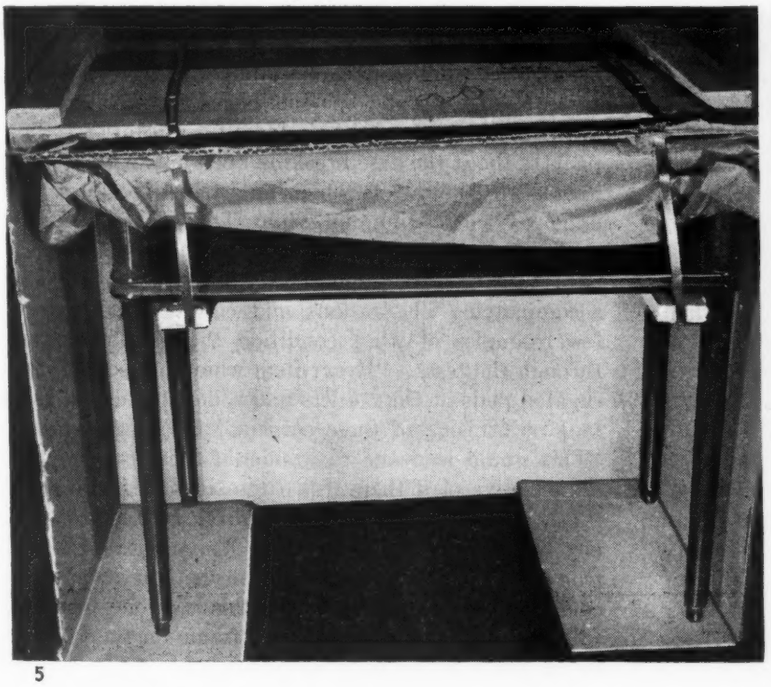




3

4

3—*Magazine basket, packed in A-flute R.S.C.-style corrugated box, 200# test stamp (actual 216#), outside size 16$^{3}/_{8}$ by 10$^{3}/_{8}$ by 25$^{1}/_{4}$. Gross weight 10 lbs. No inside packing material except a scored sheet on top reaching to the top of the box. Given the prescribed 10 impact drops of 60 in. Result: 2 legs broken, a top inside cover chipped off.* **4**—*End table, packed in A-flute R.S.C. style corrugated box, 200# test stamp (actual test 180#), outside size 24$^{3}/_{4}$ by 12$^{1}/_{2}$ by 23$^{3}/_{4}$. Gross weight 15 lbs. The article was protected only by 2 excelsior pads on the top. Result: It would have been given the prescribed 10 impact drops of 39 in., but the carton failed on the third drop and the bottom knocked out at one of the corners.*



5

5

5—*End table. Packed in A-flute R.S.C.-style corrugated box, 200# test stamp, (actual test 175#), outside size 28$^{1}/_{2}$ by 15 by 22$^{3}/_{4}$. Gross weight 20 lbs. The table was suspended from the top by two flat metal straps. Two wood hangers nailed to underside of shelf. A novel frame of 4 pieces used on top. A macerated paper cushion used on top of the table. Given prescribed 10 impact drops of 30 in. Result: No damage of any kind. Glass top was not damaged.* **6**—*Lamp table, packed in A-flute, R.S.C.-style corrugated box, 200# test stamp (actual 158# test), outside size 21$^{3}/_{4}$ by 21$^{3}/_{4}$ by 29. Gross weight 15 lbs. A slotted pad tacked to underside of table to protect curved rim from sides of box. Two reversed V-partitions to support pedestal base. 30# kraft paper on top and a corrugated collar on top to provide a clearance between table and top of box. Given prescribed 10 impact drops of 39 in. Result: One broken leg. Carved rim broken.*

7

8

Figs. **7** *to* **11**—*The consecutive steps in preparing a Jiffy pack. All of the finished surfaces of this cedar chest are covered by a macerated paper blanket. A light skid is used.* **8**—*The blankets are then folded neatly as shown and are fastened to the back of the cedar chest with an automatic staple hammer.*

to 100 lbs.). Suggested standards were developed as the result of exploratory tests and studies undertaken to provide dependable data and a starting point for the formulation of performance specifications for packing all types of furniture. By such specs shippers would have reliable tests to determine performance, and it is believed, avoid a lot of grief.

Tests were made at the Don L. Quinn Co. laboratories, Chicago. They took into consideration the three most important forces that cause containers to break open and spill contents, to crush and thus lose their protective value, and to puncture.

Samples for the tests were supplied by Sears, Roebuck & Co., which furnished packed items chosen at random from stock. The tests involving a cycle of ten drops of packed merchandise were made under controlled conditions, utilizing the divided table-top device that has been standardized by the Technical Assn. of the Pulp and Paper Industry. This is a gallows-like affair with a trap which can be set at different heights as required. The device is simple to construct and install, and would cost less than $25, so that it is a practical way for any shipper who may wish to pre-test the performance of his packing.

Performance standards

The tentative standard of performance suggested for tests and study is worded as follows:

1. All shipping containers must comply with all the requirements of Rule 41 of the Freight Classification Committee and in addition must be certified as having a compression resistance under standard conditioning and testing as follows: in the 175# and 200# test group a minimum of 12 lbs. per perimeter inch of wall under compression plus a constant of 150 lbs. in any direction. Maximum load required is 1,000 lbs. For containers in the 150# and 275# test group the minimum loads shall be 50% and 150%, respectively, of the above specified loads.

2. The packaged article when offered for shipment must be certified as able to resist 50 foot-pound impact drops when applied diagonally under controlled conditions, to one top and one side edges at each end, and flatwise onto each of the six faces for a total of 10 impacts without the case breaking open and without any damage to the article which might justify a loss and damage claim. Minimum height of drop, 12 in.

Twelve items were subjected to the tests. Every item with one exception showed some damage. The accompanying illustrations and captions illustrate a few examples of what condition the furniture came through the tests. "Every item which has scored corrugated pads at the corners had some measure of rubbing or bruising of these corners," the report stated. "This would lead one to wonder if these corner pads are effective or if there was a too tight fit in the container. Many items which rested on their legs on the box bottom developed racking. This appeared to be true even where the item seemed to be fairly rugged in construction. An exception to this was one instance where the legs rested on a wood frame on the bottom of the box."

The one test which showed no damage was an end table (Fig. 5) that was suspended off its legs with strapping while the top was protected with what is known as a macerated paper blanket.

Experience with macerated paper pack

J. L. Ware, in charge of merchandise and packing standards for the furniture department of Sears, Roebuck & Co., which is among the nation's largest buyers of furniture items, also reports favorable experience

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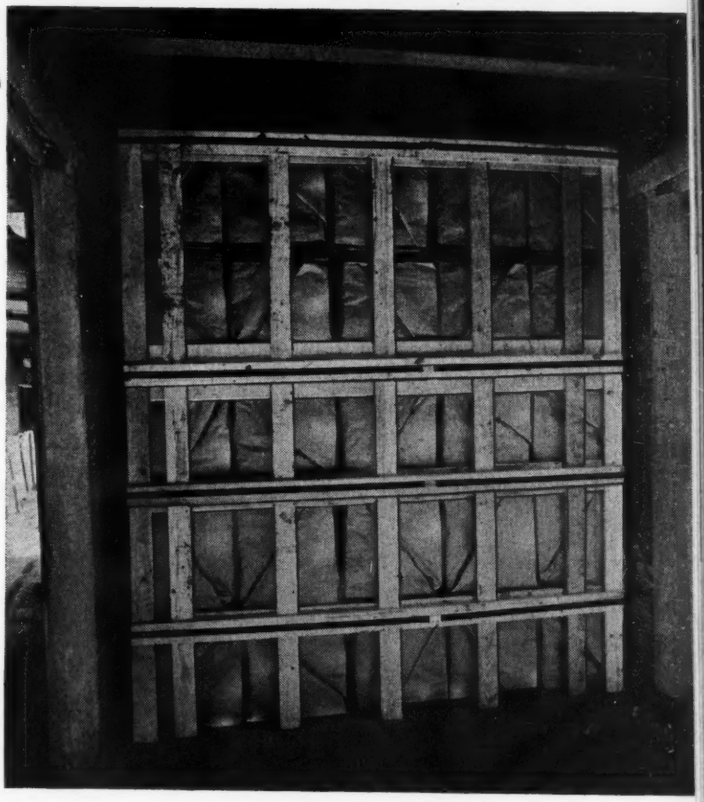

11

9—Case preparation is simple, is said to offer ample, economical protection. **10**—*Placed top to top, skid to skid, cedar chests are loaded in box car. Heavy blanket folds act as cushions. Four steel bands are anchored in car studding.* **11**—*Completed half-car unit load of cedar chests; gate constructed with single cleats running vertically and double ones horizontally. Steel bands have been tensioned and sealed to brace load against damage.*

with the macerated paper materials and methods of furniture packing and shipping known as the Jiffy pack. As explained by Mr. Ware, furniture packs divide into two general types—pressure packs and clearance packs —with the Jiffy pack falling in the former category. The nature of the finish on the furniture helps to determine which kind of pack should be used; if the finish is sufficiently hard, a pressure pack may be employed, but in some cases a clearance pack is recommended to prevent the imprint of the packing material from being transferred to the surface of the finished piece.

Advantages of macerated paper packs

Among the desirable features of the macerated paper pad type pack, as cited by Mr. Ware, is the fact that furniture thus protected is kept in an upright position during all loading and unloading operations, minimizing the likelihood of damage. This is not always the case with crated merchandise, even when handling instructions are clearly marked on the outside of the container. This method of packing also keeps the furniture clean, Mr. Ware states, since it offers no air space where dust, cinders or other soil can work its way into the pack. Another feature of the pack is the ease with which it may be unpacked merely by cutting the straps. This he regards as particularly important at present, in view of the carelessness often displayed in opening crates, with damage resulting from improper use of hammers, crowbars and other tools.

Structurally these macerated paper pads or blankets consist of two sheets of 35 lb. basis weight kraft paper, between which is placed batting of macerated paper, resulting in a pad about $^5/_8$ in. thick, sufficient to protect furniture surfaces. Pads are laminated with asphalt to keep the batting evenly distributed without bulges. The blankets are made in a variety of sizes to meet average packaging problems.

It is claimed that this pack is inexpensive, gives every protection to furniture finish, eliminates use of metal fasteners near finished surfaces. Only staples and twine are used. By means of flat-tensioned and sealed-steel bands, the pack lends itself well to car bracing of freight.

CREDITS: *Macerated paper blankets, Jiffy Mfg. Co., Hillside, N. J. Steel strapping, Acme Steel Co., Chicago.*

Radio batteries . . . ready for peacetime markets

Changeover from the wartime container for Bright Star radio batteries involved more than the usual considerations, since the package is a functional part of the battery assembly.

The carton contains the various parts of the battery and holds the socket in place. An opening on the top panel is provided for connections and in use the battery never leaves the container.

For the past few years, the Bright Star Battery Co., of Clifton, N. J., produced batteries for the Army and Navy Signal Corps exclusively. The carton was olive drab in color and printed entirely in black with minimum essential descriptive information and instructions on the front panel only. To meet the wartime requirements for waterproof protection, the paperboard contained three laminations, two of which were asphalt. The entire carton, when filled with the battery, was dipped in microcrystalline wax for additional waterproofness.

The new carton, colored bright red and printed in reverse white lettering, presents a striking appearance and does not require the special water-proof treatment. For normal commercial use application of a single coating of varnish applied to the paperboard has been found adequate and at the same time gives the package an attractive high gloss. This package lends itself ideally to use in electro-radio work where a material which is a non-conductor of electricity, such as paperboard, is essential.

The "Bright Star" name enclosed in a white oval on the red background appears on the upper section of front and back panels and on the top of the carton. Complementing this identifying mark is the company's well-known trademark symbol—a red star on a circular white background—in the lower left corner of the front and back panels. The voltage, the battery type and number are boldly lettered on the front and back panels.

One end panel notes that the battery is "Designed to meet every requirement for portable radio receivers," while the other merely lists the company's patent numbers. The top panel, with a circular die-cut opening in the center for connecting the battery, carries instructions for testing and repeats the battery number and voltage. The bottom panel is provided with a panel for dating the battery.

The perforated tabs of the die-cut openings in the wartime package remained in place because of the necessity for wax-dipping the package, complete with battery; the new commercial package has a simple circular opening, already cut, since it is not dipped.

CREDIT: *Cartons by Berles Carton Co., Inc., Paterson, N. J.*

Olive drab printed in black for Army use gives way to brilliant red and white for the new carton for Bright Star radio battery. Because the battery never leaves the container, an opening is provided on top for connections.

New type of tubular bandage is provided with convenient dispensing package; paperboard rack keeps a complete set of package sizes together in the physician's office.

Tubular bandages . . . easy for the doctor to use

Surgitube is a new type of tubular gauze bandage for use by physicians and surgeons. The design problem was to produce a convenient dispensing package and to show the many uses for this product.

Manufactured by the Surgitube Products Corp., of Bronx, N. Y., a new company formed to market the product, the bandage is produced in five different widths, each intended for use on a different part of the body. The smaller sizes, for bandaging fingers, toes, hands, and feet, are produced in both flesh color and white, while the larger widths for arms, legs and head are made only in white.

By packaging each of the different bandages in a series of seven individual cartons and grouping them in a paperboard rack, as shown in the photograph, the desired aims have been achieved.

The rack is not intended as a dispensing display in the usual sense; its purpose is to keep the set of packages together in convenient form for use in the doctor's office. Eventually, it is intended that the rack will be discreetly printed with informative, ethical copy.

The individual cartons vary in width to accommodate the different sizes of bandages. They are designed in restrained manner befitting an ethical product. Printing is in reverse white on a cool green-blue background and the illustrations on the panels are printed in buff. The entire surface is varnished for high gloss.

The package plays up the slogan "A twist and it fits" to suggest the ease with which a piece of the fabric simply placed over a finger, twisted, turned back and sealed with adhesive can replace the customary method of wrapping yards of bandage around the finger and tying it around the hand to hold it in place. The bandage is said to be not only easier for the doctor to use, but better for the patient in that it permits free use of the injured member.

The bandage is wound on a fibreboard spool centered in an inner structure of lightweight paperboard, which permits the spool to turn freely as bandage is withdrawn from an opening on the front panel of the package. A tab, with the lettering "Pull here to start," is stapled to the end of the bandage which extends from the opening slot, and the "ears" of the tab are intended to slip under the opening to hold it neatly in place. Each of the five widths of bandage is numbered and a narrow white panel above the slot is printed with the number and color of the bandage contained in the carton. Below the slot is another white panel printed with information about uses for the particular size.

One side panel of each package explains in general the use and advantages of the bandage. The other illustrates in step-by-step diagrams how the bandage should be applied; the small boxes show the application of a narrow bandage to a finger, and the larger boxes display the wider bandage applied to the head. Suggestions for use of other widths are shown by drawings on the back end panel.

CREDITS: *"Surgitube" dispensing package and rack designed and made by Brooks & Porter, New York.*

Display Gallery

1

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You can count on Your Druggist Your Doctor does
Wyeth
The Father of American Pharmacy
ASK FOR YOUR FREE BOOKLET "PIONEERS OF AMERICAN MEDICINE"

5

(Page 186)

1 A self-dispensing counter display for Norwich Nose Drops has an interesting feature which cuts down on production costs. The whole display, including the backpiece, is made on one piece of paperboard intricately die cut and scored to fold into the unit shown in the photograph. Blue and red against the white of the board make an eye-stopping color combination in contrast with the red, black and white of the labels. Display, F. M. Howell & Co., Elmira, N. Y.

2 Because windshield wipers and accessory stocks are difficult to find room for in the average garage or service station, Rain-Master has evolved this unique counter display with storage space for all necessary parts as well as several pockets to hold road maps. To prevent pilferage, the facilities for the use of a lock have also been provided. Display, Advertising Metal Display Co., Chicago, Ill.

3 Raymond Laboratories, Inc., of St. Paul, emphasizes the natural beauty of finely-cared-for hair in its latest display. The soft pastel coloring blends in with the new plastic and glass containers for New Ray Creme which appear in the lower right hand corner of the display. Display created and produced by Hussey-Woodward, Inc., New York City.

4 The unusual color scheme of this new easel-mounted display for Bix crackers gives it a stand-out quality bound to attract attention among other window and counter pieces. The brilliant yellow packages are swirled dramatically against a black background with the large lettering of product name in white edged with orange. Display, Somerville Ltd., London, Ontario.

5 Wyeth, Inc., Philadelphia, is distributing a four-color counter and window display combination to focus attention on the close professional relationship between the druggist and the doctor. The centerpiece is a giant-size pharmacist's old prescription book. Flanking it are smaller units, one a caduceus and the other a mortar and pestle. Display, Einson-Freeman, Co., Inc., Long Island City, N. Y.

6 One of the latest examples of the use of acrylics in displays is this new counter piece for Camel cigarettes. The fabrication of the piece is of especial interest. The sheet material is shipped protected by a paper backing which is left on during the cutting operation. The paper is then removed and the Camel name and slogan silk-screened on the red material. The pieces then move down belt conveyors for assembly on jigs, a method which has speeded production and reduced costs. Plexiglas, Rohm & Haas Co., Philadelphia, Pa. Fabricator, Art Display Service, Winston-Salem, N. C.

7 A smart counter display which measures only 8 in. by 3 in. is used by the Tintz Co. to promote Tintz Color Shampoo Soap. Each unit holds one dozen individually packaged pieces. The effective 6-color display features seven new fashion hair-dos to tie in with each color shade. Display, Addison Lithographing Co., Chicago, Ill.

8 An attractive floor merchandiser for the Standard Brands line of Shefford Cheeses, intended principally for supermarkets, is meant to tempt the shopper to examine many interesting cheese packages to find the one wanted, meanwhile discovering other varieties which she will probably buy also. The merchandiser has a unique construction which eliminates the need for inside support and braces. Its own sidewalls fold in automatically to support a heavy load of merchandise. Display, Container Corp. of America, Chicago, Ill.

(Page 187)

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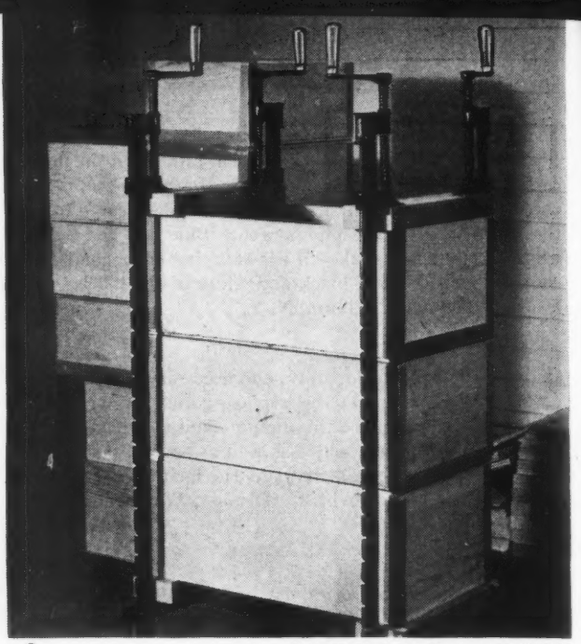


2

PHOTOS COURTESY THE WOODEN BOX INSTITUTE

1—Setting glue in mitred side-end joints of wood box for pre-packaged fruits, using infra-red heat. 250-watt lamps develop average glue-line temperature of about 200 deg. F. in 5 min., sufficient to set some urea-resin adhesives. Pressure is applied by spring-loaded jig. 2—Gluing bottoms to taped and glued side-end assemblies for tray-packed tomato boxes. In background are several pre-packaged fruit containers; top boxes in stack have lock-corner construction and bottom ones have mitered, taped and glued vertical edges.

Wooden boxes without nails

Considerable interest was displayed at the recent annual meeting of the Pacific Division, National Wooden Box Assn., in a variety of wooden shipping containers constructed without nails. The experimental containers, designed by Earl C. Myers, research director for The Wooden Box Institute, were displayed for the first time at the San Francisco convention.

The majority of the containers shown were designed to take pre-packaged fruit or vegetables and were constructed with resinous adhesives and tapes instead of nails. While none had been given shipping tests, all had been tested in the laboratory with drop-testing, impact, racking and compression-testing equipment. Further research is being made into faster methods of setting glues and in various types of tapes and the bond between the glued surface and different species of wood. All experimental containers displayed at the meeting were constructed of Ponderosa pine.

Two of the containers drew the most attention. One was a box for pre-packaged fruit and the other was a box for taking a tray pack of tomatoes. Following are the specifications as prepared by Mr. Myers:

Pre-packaged fruit box

Inside measurements—16 by 10 by $3^3/_4$ in. (Takes 18 1-lb. unit cartons.)

Material—$^3/_{16}$-in. Ponderosa pine (re-sawed).

Footage (less cover)—1.09.

Weight—1.06 lbs.

Construction—Mitered, taped and glued vertical edges; edge-glued bottom, taped across ends.

Cover—Glue-assembled and taped to ends; three slats $3^1/_{16}$ in. wide glued to ends; two cleats 1 in. wide glued to slats and taped to ends.

Tape—Moisture-resistant, clay-filled cloth.

Adhesives—For mitered joints, casein "Casco," applied with no extra pressure and no heat; for cover, urea resin set with infra-red heat and pressure.

Tray-pack tomato box

Inside measurements—20 by $12^1/_4$ by $8^1/_2$ in. (Takes three pressed paper trays, 30 tomatoes per tray.)

Footage (less cover)—2.20.

Weight—3.4 lbs.

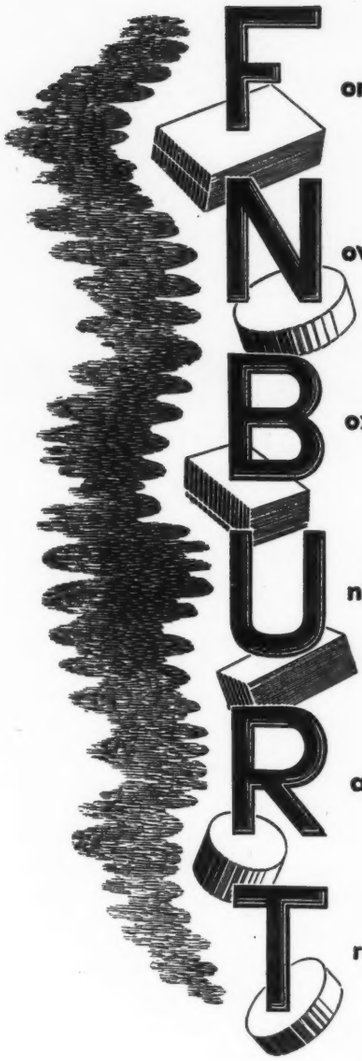
Construction—Mitered, taped and glued vertical edges; bottom edges glued and taped across ends only.

Tape—Moisture-resistant, 2-in. clay-filled cloth.

Adhesive—Urea resin "UF500" set under pressure, no heat; for bottom edges, casein "Casco" set with light pressure and no heat.

Cover—Same construction as on pre-packaged fruit box.

A variation of the pre-packaged fruit container also was shown, the only difference being lock-corner construction instead of mitered and glued vertical edges.



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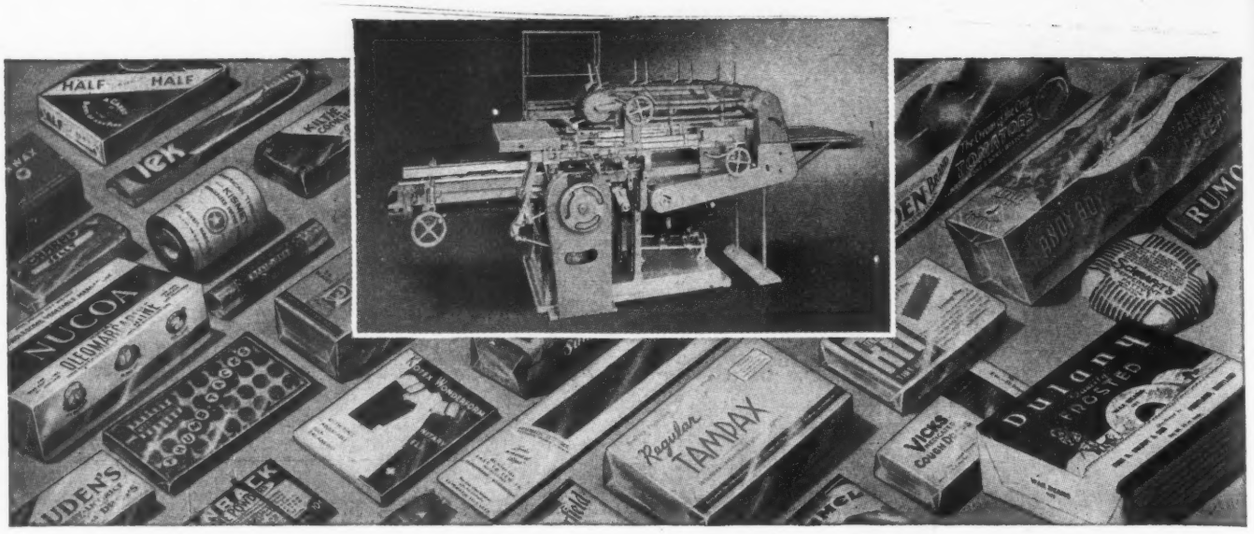

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For better usage . . . 2. yield values

by Charles A. Southwick, Jr.

The materials used for the construction of packages are of so many different kinds that it is unfortunate that there exist many absurdities in connection with reporting of yield of materials and in comparing yield values. Yield can be defined as the surface area per unit of weight or as the weight per unit of surface area. It may seem surprising that such fundamental and useful information should be in a confused state. The reason for the confusion is that packaging inherited from earlier groups such as the paper industry, the trade practices and measuring means which were used by the older industries.

An excellent example of this is the use of the ream, which packaging has adopted from the paper industry. A ream may be defined as the area of an arbitrary number and size of sheets of paper. Different industries developed different sizes of sheets and numbers for their particular kind of ream and at least originally these particularized usages caused no difficulties, because there was little conflict in end use. However, packaging requires many different kinds of paper, either in original or converted form and, as a result, the use of the ream for measurement of surface and weight has become increasingly confusing to a buyer of packaging materials.

A recent survey showed that there were seventeen different sizes of reams of standard basis of paper measurement now in use. Each one of these reams had a different size of sheet or a different number of sheets to make up the so-called "basis weight," and even more confusing is the fact that certain papers may be available in several different sizes of ream, depending upon the industry for which they are made.

The paper industry has recognized this confusion and is now engaged in a belated attempt to simplify practices by the development of a standard basis weight measurement which will be defined as the weight per 1,000 sheets each of 1,000 square inches. There is no question but what the adoption of such standards will greatly clarify a great deal of unnecessary confusion now existing in paper manufacturing and in the paper trades.

Unfortunately, however, the adoption of such a standard will not solve the whole problem for most purchasers of packaging materials. It will, of course, help in the purchases of paper or paperboard, but there are a great many purchasers and producers who use little or no paper.

Those who have the most need of such an over-all standard practice are the producers or users of a large variety of packaging materials and especially those who produce or use combinations or laminations of many materials.

The accompanying table tabulates the current practices for most common packaging materials. This chart also includes the "basis for pricing" and "basis for payment." These were included because both of these considerations are necessary in the discussion of the complete picture of yield values or measurement of the surface-weight relationship.

A study of this chart reveals that there are wide divergencies of practice: First, the plastic films differ one from another; second, as would be expected, the paper products differ one from another and, third, these two groups differ fundamentally from each other. The chart also points out very clearly the conditions facing a manufacturer who, for example, is buying metal foils, cellophane, vinyl film, coated paper and paperboard. Such a user would be working with five different kinds of yield values, several different bases for pricing and three different bases for payment. If the 1,000 square inch-1,000 sheet basis were used by paper-products manufacturers, such a purchaser would still be using four different bases for yield and two bases for pricing and payment.

The purchaser of packaging materials uses materials

This article is the second of a series pointing out confusion in terminology in the complex packaging field and suggesting possible clarifications. The article deals with methods of reporting yield of materials and comparing yield values—a subject of vital importance to cost and production departments dealing with a variety of materials.

CURRENT PRACTICES IN CALCULATING YIELD AND PRICE

Material	*Yield*	*Basis for pricing*	*Basis for payment*
Cellophane—all makers	Sq. in. per lb.	Per lb.	Net weight
Acetate—all makers:			
Thin gauges	Sq. in. per lb.	Per lb.	Net weight
Heavier gauges	Per 1,000 sq. in.	Per 1,000 sq. in.	Net area
Metal foil—all makers	Sq. in. per lb.	Per lb.	Net weight
Pliofilm	Sq. in. per lb.	Per lb.	Net weight
Vinyl film			
a.—2 makers	Sq. in. per lb.	Per lb.	Net weight
b.—1 maker	Sq. yards per lb.	Per lb.	Net weight
Polyethylene			
a.—1 maker	Sq. yards per lb.	Per lb.	Net weight
b.—1 maker	Lbs. per 100 sq. ft. per mil of thickness	Per lb.	Net weight
c.—1 maker	Sq. in. per lb.	Per lb.	Net weight
Kraft paper—all makers	Lbs. per ream—24″ × 36″—480 (2,880 sq. ft.)[1]	Per cwt.	Gross for net[2]
Coated paper (printing)all makers	Lbs. per ream—25″ × 38″—500 (4,750 sq. ft.)[1]	Per cwt.	Gross for net
Glassine—all makers	Lbs. per ream—24″ × 36″—500 (3,000 sq. ft.)[1]	Per lb.	Gross for net
Waxed papers—all makers	Lbs. per ream—24″ × 36″—480 (2,880 sq. ft.)[1]	Per cwt.	Gross for net
Paper board—all makers	Bundle[3]—50 lbs. or lbs. per 1,000 sq. ft.	Per ton Per 1,000 sq. ft.	Gross for net Net area

[1] For example, a ream of 480 sheets each 24″ × 36″ or its equivalent area, 2,880 sq. ft.

[2] Meaning total weight of paper, plus paper wrappers, cores, etc. (but not including returnable metal cores) paid for as net weight of actual usable paper.

[3] To determine area per bundle, see booklet "Standards," National Paperboard Assn.

on the basis of surface; that is, coverage or area. He is interested in knowing how far materials will go in covering a given product or container. The difficulty comes from the fact that it is inconvenient to buy, sell and keep an inventory of materials on the basis of surface. The normal and convenient way of purchase and inventory is on a basis of weight and it is for this reason that we have the perennial requirement for determination of yield or area per unit of weight.

The cost department of a user of packaging materials or a converter of such materials is interested in figuring out, from a sample, the dimensions and weights of components to make 1,000 of the desired packages, wrappers, etc. These dimensions will be in inches, so the most convenient figure for a cost department to use is a yield based on square inches per pound. This enables the cost department to calculate very rapidly, from price per lb., charges to be set against materials.

However, the manufacturing department of a converter or package maker is interested in knowing how many packages can be made by using a given *weight* of material. Therefore, the most useful figure for this purpose is pounds per 1,000 square feet. This value is different and based on a larger surface than is handled by the cost department, but it is also obvious that a manufacturing department is operating with many thousands of square feet and is not interested in square inch values.

The reason for showing the "basis for payment" column is that the paper industry follows the practice of "gross for net." This means, for example, that the gross weight of a shipment of paper received as wrapped rolls is paid for as though the paper cores, the end pads, the paper wrappers, etc., were usable paper stock for the purpose intended. There are probably many people who do not fully understand this fact. There are many details in this practice—depending upon whether the material is purchased in sheets, on steel cores, etc.—which make it even more difficult, unless the basis is clearly understood, to properly evaluate the net or useful weight of the paper product purchased. This practice does not make appreciable differences if large rolls of low-priced paper stock are being purchased, but it becomes important when small rolls of high-cost paper materials are used. This practice of gross for net is never used by the plastic film or metal foil industries because of the very large difference in price between the commodity purchased and the cost of wrapping materials, etc.

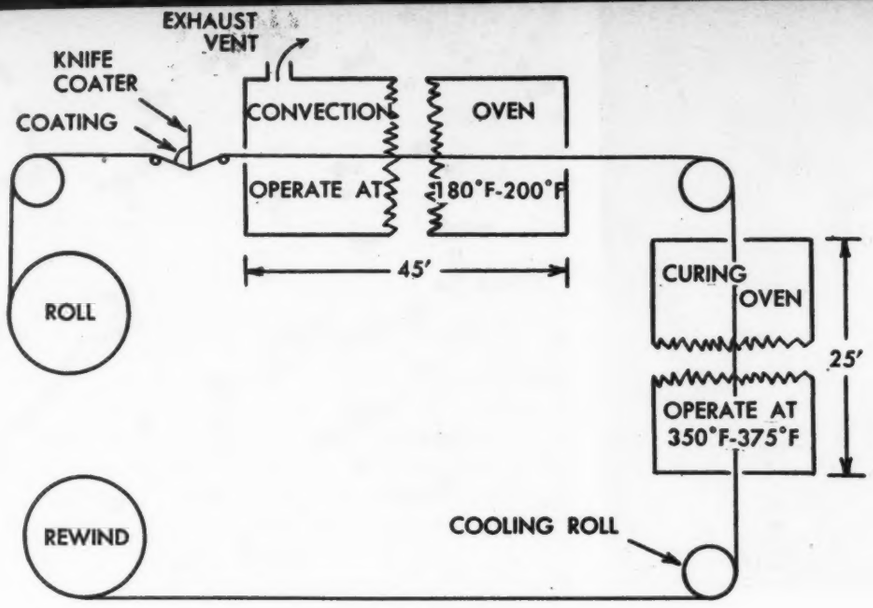
The chart shows that paperboard yield is shown in two different ways:

(1) As bundles of 50 lbs., or

(2) As pounds per 1,000 square feet.

The definition of "bundle" and the accompanying directions for interpreting this in terms of surface are extremely complex, particularly in comparison with the simplified practice of reporting yield in terms of pounds per 1,000 square feet.

The proposal of the paper products industry to report their yield based on the (*Continued on page 260*)



1—Typical organosol coating and curing operation, with dimensions set for running rate of 30 ft. per min.

Organosols . . . new dispersion coatings

*by Justus Hoyt**

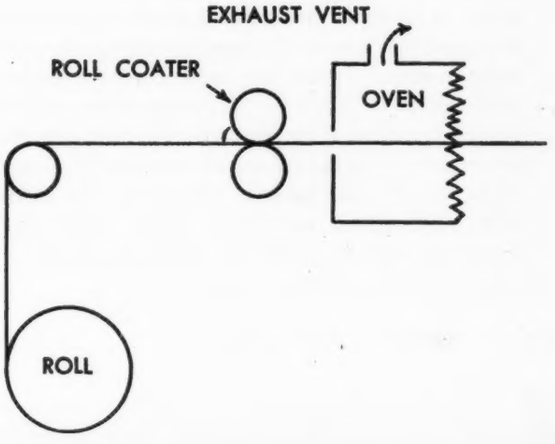
During the past two or three years a new technique in the handling of high chloride vinyl copolymers has been evolved whereby many limitations which characterized the application of these resins as coatings from solution have been removed. Work originating with the Bakelite Corp., and since carried on by numerous industrial laboratories, has produced a high solids dispersion of vinyl chloride-acetate resins making possible the application of superior films at substantially reduced unit cost. These dispersions, originally designated as organosols by Bakelite, are also sometimes referred to as dispersion coatings.

Wartime demands made on the packaging industry resulted, among other things, in a thorough demonstration of the utility and excellence of the vinyl copolymers as coatings materials for many applications where tough, flexible, durable films are required. Their low moisture-vapor transmission and low flammability further widen their utility. Whereas the technique of applying these resins from solution in organic solvents has been well known and practiced for many years, it has always been comparatively expensive due to the low solids attainable and the high cost of active solvents. Added to this, numerous coats were frequently required to build even moderate film thicknesses. Coaters were, of necessity, forced to recover their solvents in order to operate competitively. These economic aspects have impeded the wide-scale adoption of vinyl coatings in the past to the extent which their general qualities would otherwise have dictated.

A typical solution coating might contain from 20 to 30% of film-forming solids. From 70 to 80% represents volatile constituents to be recovered. The tendency of these polymers to retain solvents often requires the application of numerous thin coats rather than a few heavy ones to attain the desired coating weight. Solution stability of most of the applicable copolymers is limited and, not infrequently, losses are incurred through gel formation. Finally, those polymers yielding the toughest films have such low solubility at room temperature that heretofore their application has been almost entirely limited to the use of calendering or high-temperature solutions.

The organosol, or dispersion coating, on the other hand, is based on these latter polymers which are impracticable from a solution viewpoint. The new method provides the coater with a material containing up to 70% of film-forming solids in a low-cost volatile carrier. Release of the volatile carrier is rapid and high coating weights can be applied in a single operation by any of the conventional coating (*Continued on page 262*)

2—An alternate organosol coating arrangement. The drying and curing operation are the same as shown in Fig. 1.



* Development Division, Sun Chemical Corp., New York.

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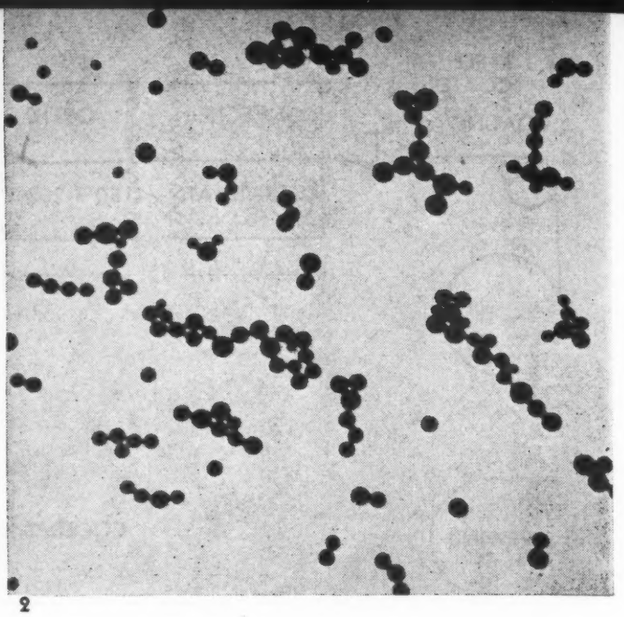


2

1—Demonstrating the clarity and toughness of a film cast from Saran F-122 latex. Such films were used in the determination of physical properties. 2—Electron micrograph shows small and uniform size of particles in colloidally dispersed Saran coating latex. Particle size ranges from 0.08 to 0.15 micron.

Saran coating latex . . . properties and uses

*by G. W. Stanton and W. A. Henson**

Because of the inherent ability of the pulp and paper industry to handle water coating systems, a film-forming latex may be readily utilized in standard operations. The development of a Saran coating latex suitable for use by the industry greatly broadens the possibilities and opportunities for the preparation of functional papers having new and unusual properties.

The Saran resins are prominent in the field of thermoplastics for their high degree of resistance to a wide variety of chemicals and their very low rates of transmission of gases and vapors as well as for their excellent mechanical properties and fireproofness. These properties exist through a wide range of polymer structure from crystalline, fibre-forming molding powders to amorphous, readily soluble coating resins, permitting their utilization in a variety of applications.

* Both of the Experimental Polymerization Division, Dow Chemical Co., Midland, Mich. From a paper read by Mr. Henson at the Annual Meeting of the Technical Assn. of the Pulp and Paper Industry, New York, Feb. 26, 1946.

Saran film-forming coating latices offer a new way of applying the desirable characteristics of Saran resins to packaging materials. The compositions are applied with a simple water-dispersion process, without the use of solvents, using existing machinery. They are indicated for applications to a variety of paper and paperboard materials to provide oil and greaseproofness, chemical resistance, waterproofness, gloss and heat-sealability. In addition, free films and tapes have been cast from the latices with interesting results.

The solvent-soluble Saran resins are finding their place in the general coating fields where the above combination of properties is required and where volatile, inflammable solvents can be employed. Saran coating latex furnishes an additional means of making use of the qualities of these resins, namely through their use as film-forming coating compositions in which water is the only dispersing and carrying phase. This eliminates the costs, toxicity and fire hazards which accompany the use of organic solvents formerly required for the application of similar coatings. Due to the absence of chemical affinity between the two phases in the latex, the problem of solvent retention is eliminated and complete drying is much more readily accomplished.

Many types of machines designed for the application of mineral coatings and color coatings to paper have been found suitable for applying and drying Saran latex. Such machines are now capable of producing papers which combine the properties of high gloss and good heat-sealability with resistance to oil, water and chemicals, thus enabling them to be utilized in new markets for their producers.

In addition, the latex need not be confined to the coating field. Such properties as wet strength, oil and grease resistance, vapor permeability and tear resistance may be improved by incorporation of the latex in the fibre furnish or on saturating or impregnating ma-

chines. The application of Saran latex to paper is discussed more fully in the section which is entitled *Use Applications*.

General properties

The Saran coating latices are colloidal dispersions of solid polymer in water. As can be seen in the accompanying electron micrograph (Fig. 2), the particle size is very uniform and small, ranging from approximately 0.08–0.15 micron. The solids content can be made as high as 60% without sacrifice of particle size or distribution. Figs. 3 and 4 show the variation of specific gravity and viscosity, respectively, with increasing solids content. The specific gravities were determined with standard hydrometers and the viscosities by the capillary method.

The Saran-coating latices are somewhat sensitive to coagulation by electrolytes and water-miscible organic liquids, as indicated in the following table:

	Cc. of 5% salt solution required to produce faint trace of coagulation			*Cc. pure*
Sample (100 grams)	NaCl	MgCl	Al(SO)	MeOH
Unplasticized latex	44	10.5	2.5	75
25% Plasticizer in latex	2+	0.4	0.1	5

These concentrations are much higher than need be encountered in normal practice. Infinite dilution of the latex with hard water produces no coagulation or unstabilizing effects.

In common with other water dispersions the Saran latices show greater stability in contact with certain metals than with others. Listed below in order of preference are representative metals found to be satisfactory for processing and handling the latices (pH adjusted between 5 and 8):

Stainless Steel	Brass
Chromium	Nickel
Tin	Aluminum
Bronze	

Metals such as black iron and mild steels which are quite readily corroded are unsatisfactory; however, these surfaces are satisfactory if coated with a water impermeable finish, such as one of the Saran-coating resins in the form of a latex or in organic solvent solution.

The pH of the latex as normally furnished is in the range 6.5–7.5. This may be raised by addition of ammonia to 12 although some discoloration may occur in the higher range. Likewise, the pH may be lowered to 2 by addition of a monobasic acid such as hydrochloric or nitric; coagulation begins at pH below 2.

Formulation techniques

No extraordinary technique is required for incorporating various ingredients into Saran latices. Any precautions to be observed are the same as would be employed in handling any colloidally dispersed system.

The viscosity of the latex usually marketed (Fig. 4) is approximately 22 centipoise at 57% solids. This can be raised to any desired viscosity by the addition of very small amounts of available thickeners, typical examples being hydroxyethyl cellulose carboxymethyl cellulose sodium salt, and sodium or ammonium alginate. As the viscosity is increased by addition of thickener, some degree of thixotropy is encountered which makes accurate determination of viscosity by the capillary method impossible. Several types of viscosimeters are available which measure viscosity by the drag exerted against a rotating spindle which is immersed in the liquid and driven at constant speed or constant torque. The Brookfield Syncro-Lectric Viscosimeter, which operates on the above principle, has been found satisfactory for determination of viscosities of thickened latices and was used for all such determinations in this work.

The accompanying diagram (Fig. 5) shows the increase in viscosity produced by the addition of increasing concentrations of thickening agent to a 57% solids latex. In this example the thickening agent employed was 100 centipoise type hydroxyethyl cellulose added as a 10% aqueous solution. The concentrations are expressed as hydroxyethyl cellulose solids based on

FIG. 3

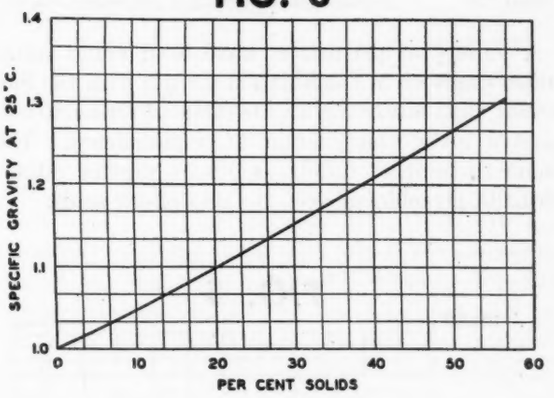
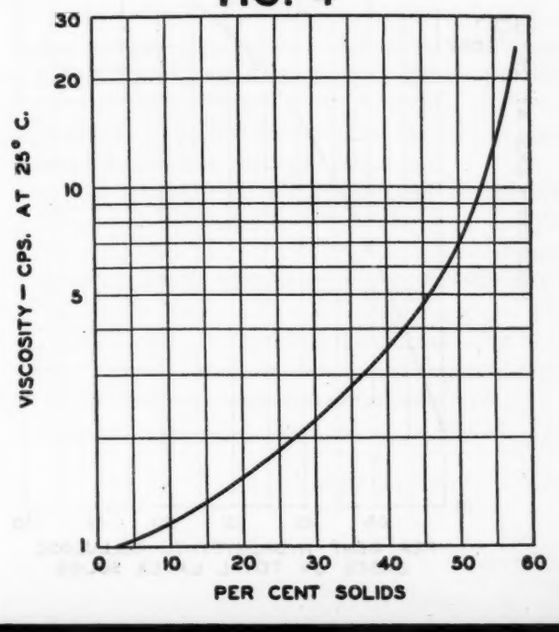


FIG. 4



total latex solids. The viscosity of the latex may be readily increased to approximately 5,000 centipoise by the addition of small concentrations of thickener. Higher viscosities show marked thixotropy and poor flow characteristics and are therefore less applicable to most coating operations.

Hydroxyethyl cellulose is available in various viscosity types ranging from 10 to 500 centipoise measured as a 5% aqueous solution at 25 deg. C. At a given concentration a higher viscosity type hydroxyethyl cellulose produces a higher latex viscosity. The data plotted in Fig. 6 were obtained by adding a 0.2% concentration of various viscosity types of hydroxyethyl cellulose to a 57% solids latex and determining the resulting viscosity. The plot shows the relatively lower efficiency of the viscosity types above 200 centipoise.

The addition of plasticizers, stabilizers, resins and other water insoluble compatible materials is best accomplished by emulsifying the addition agent. A few typical suitable emulsifying agents are as follows:

Name	*Chemical Type*
Aerosol MA	Dihexyl ester of sodium sulfo-succinic acid
Alkanol WXN	Sodium hydrocarbon sulfonate
Aquarex D	Lauryl and myristyl sulfates
Daxad 11	Polymerized sodium salt of alkyl naphthalene sulfonic acids (alkyl short chain)
Duponol ME	Alkyl sulfate
Naccolene F	Modified alkyl aryl sulfonate
Nopco 1156	Sulfonated natural oil
Triton 720	Sodium salt of aryl alkyl poly-ether sulfonate

A variety of plasticizers have been found suitable either singly or in combination for use with the Saran latices, thus furnishing a wide range of formulations to meet a given combination of requirements. Those found to be most widely useful are organic esters of phthalic, glycollic, sebacic, and phosphoric acids.

Water-soluble materials such as dyes, lubricants, corrosion inhibitors, etc., may be added as water solutions or stirred directly into the latex. Caution must be observed as to the electrolytic nature of the addition agent since excessive electrolyte content disturbs or coagulates such colloidal systems, as discussed under general properties.

Water-insoluble extenders and modifiers such as pigments, fillers, clays, etc., can best be incorporated in the form of water slurries or pastes. Many water-dispersible carbon blacks, pigments, clays, etc., are available from pigment manufacturers and distributors.

In general it may be said that for incorporating water emulsions, slurries and pastes, those methods will be most successful which produce the most uniform and smallest particle size.

A typical formulation for a coating composition to deposit a colorless, glossy, transparent, flexible finish on paper, cloth, wood, etc., is as follows:

100 parts Saran latex (57% solids)
23.8 parts dibutyl phthalate emulsion (60% dibutyl phthalate)
1.7 parts hydroxyethyl cellulose solution (5% solids)

The coating air dries rapidly. No elevated temperature is required to produce a continuous film having excellent moisture and chemical resistance.

Physical properties

Free films were prepared from commercially available Saran F-115 latex by adding 5 to 25% of plasticizer in water emulsion and sufficient thickener to give a good casting viscosity, approximately 1,000 centipoise. The latex was then poured onto a glass plate, knifed evenly over the surface and allowed to air dry until clear.

FIG. 5

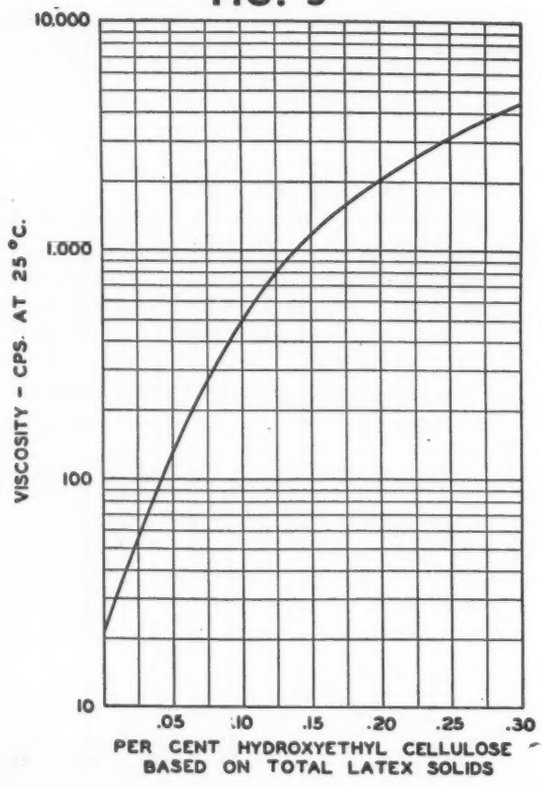
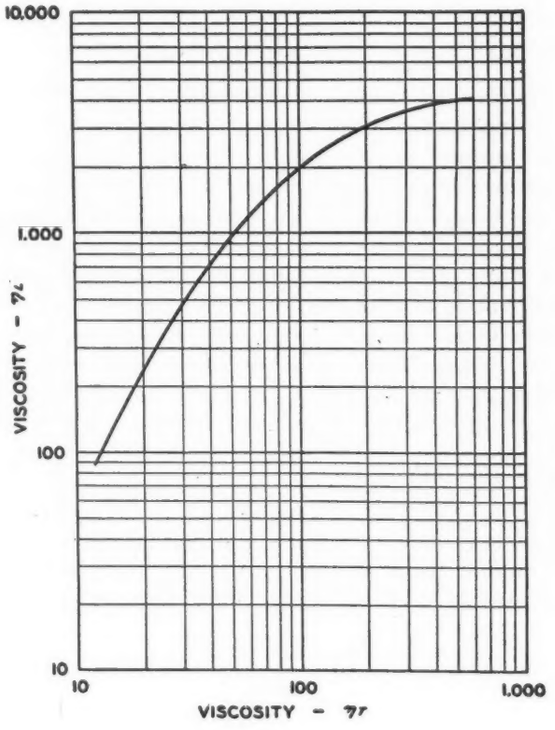


FIG. 6



Films containing 15% or less of plasticizer will show improved physical properties if heated a few minutes at 100–110 deg. C.; those containing more plasticizer are not markedly improved by heating. Clarity of film, however, indicates complete removal of water; this is confirmed by analyses showing air-dried clear films to contain 0.01% or less of water. The film after drying was then stripped from the glass plate for testing.

The data following were determined on films approximately 0.002 in. thick.

The tensile strength and elongation were determined with a Scott IP-4 Tensilgraph at 25 deg. C. and 50% relative humidity, using samples 1 in. wide by 2 in. long. These results show good agreement with those obtained on films deposited from solution in organic solvents when the plasticizer content is 15% or higher. The curves obtained from the latex-cast films indicate nearly constant tensile strength and a rapidly increasing per cent elongation from 5 to 15% plasticizer, as shown in Fig. 7.

The water-vapor transmission was determined by the General Foods method: i.e., the test sample is sealed as a diaphragm over the open top of a cup containing a desiccant, and air at 100 deg. F., 95% R.H., is circulated around the cup. The amount of moisture transmitted through the sample is measured by the weight increase and calculated to some standard unit weight/unit area/unit time. Fig. 8 shows the variation of water-vapor transmission with film thickness for films cast from latex containing 15% dibutyl phthalate. The transmission is very nearly inversely proportional to the film thickness over the range 0.5 to 6.0 mils film thickness according to the following equation:

$$T = \frac{2.6}{t}$$

where T is water-vapor transmission in gm./100 in.²/24 hrs. and t is film thickness in mils (0.001 in.).

FIG. 7

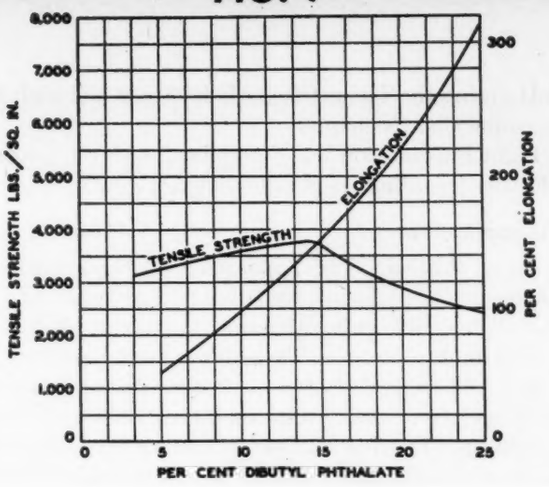


FIG. 8

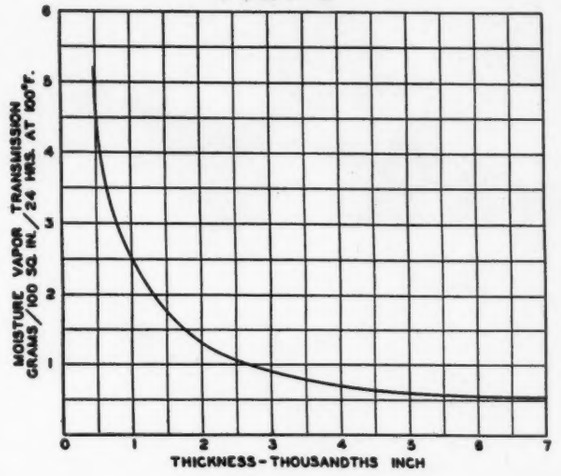


TABLE I—CHEMICAL RESISTANCE OF SARAN F-122 FILM

Containing 20% dibutyl phthalate, cast from latex

Material	*Appearance*	*Physical Properties*
HCl (Conc.)	Slight haze	No change
HCl (10%)	Slight haze	No change
HNO_3 (Conc.)	Opaque, white	Slight loss of flexibility
HNO_3 (10%)	Opaque, white	No change
H_3PO_4 (Syrupy)	Hazy, cloudy	No change
H_3PO_4 (40%)	No change	No change
NaOH (30%)	Black	Brittle
NaOH (10%)	Brown, transparent	No change
NaCl (Saturated)	No change	No change
Acetic Acid (Glac)	Slight haze	Slight loss of flexibility
Ethanol (95%)	Slight haze	Slight loss of flexibility
Turpentine	No change	Slight loss of flexibility
Peanut Oil	No change	No change
Petr. Naphtha (100–140° C. BR)	No change	Slight loss of flexibility
CCl_4	No change	Slight loss of flexibility
Methyl Ethyl Ketone	.....	Dissolves
Butyl Acetate	.....	Softens
Toluene	No change	No change

Chemical resistance was determined by suspending strips of free film, containing 20% dibutyl phthalate, partially immersed in the test liquid for two weeks at 25 deg. C. The strips were removed and examined visually and manually by pulling, tearing and folding. The results are given in Table I.

The effects of plasticizer on other physical properties may be seen in Table II.

Block temperature was determined by folding a strip of cast film lengthwise upon itself, applying a load of 1 lb./sq. in. upon the film and placing the sample in a forced-draft hot-air oven for one hour. The temperature at which the film adhered to itself sufficiently that marring or defacing resulted from pulling the halves apart is considered the block temperature.

Heat-seal temperature was determined on the continuous-belt Saran sealer in which the sample to be sealed is carried between two continuous belts through a heated zone and a cooling zone. The heat-seal temperature is taken as that temperature which produces a seal stronger than the film surrounding it.

Elmendorf tear tests were run on the standard tester of that name and by the recommended technique.

Fold endurance was determined at 25 deg. C., 50%

R.H., using the Tinius Olsen Model 31633 and with the recommended technique.

Light transmission was determined with the General Electric Recording Spectrophotometer.

Use applications

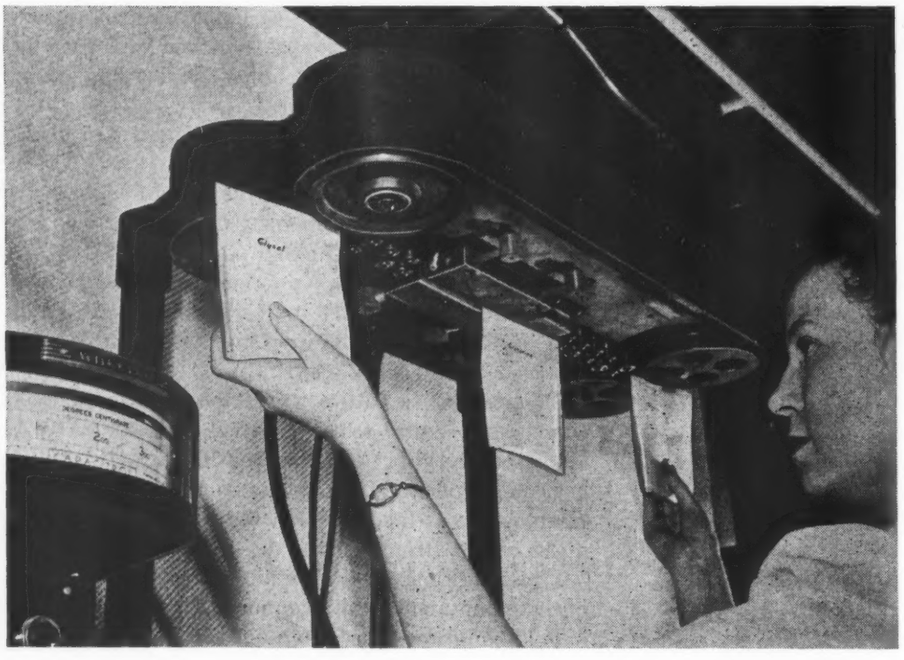
Paper Coating. The application of Saran latex to paper and paperboard contributes a number of extremely valuable protective and functional properties to this base material. These have been briefly mentioned above and include oil and greaseproofness, chemical resistance, waterproofness, gloss and heat sealability. The degree of protection required generally dictates the amount of coating to be applied in individual instances. The application of approximately 1/2-mil coatings will, in general, be sufficient for most uses since this amount provides for a continuous protective film. Its application is usually carried out as a converting operation by spray, roller or spread coating methods. The required coating viscosity is easily adjusted to suit the particular machine application. The unthickened latex is generally satisfactory for use with spray coaters, whereas roll coating performance is improved by the addition of a small amount of thickener. A general viscosity range of between 1000–2000 cps. produced by the addition of 0.1 to 0.2% of hydroxyethyl cellulose is recommended. The increased viscosity obtained measurably improves wetting and leveling. For knife or spread coating applications, a greater amount of thickener should be used to obtain maximum latex viscosity.

9

The coated paper should be passed through a heated drying tunnel or festoon, inasmuch as the coating passes through a tacky stage before the complete removal of water. It cannot, therefore, be successfully applied to the size press of the paper machine since contact with the dryers would cause sticking. This would also be true of water-box calender applications on the paper or paperboard machine. The drying operation should be similar, therefore, to that used on mineral-coated and solvent-lacquered papers, in that the surface is left undisturbed during solvent removal.

For most paper-coating applications, it is best to use a hard sized, fairly closed sheet. This promotes coating economy by retaining the maximum amount of dried latex film on the paper surface. The viscosity of the latex also greatly influences penetration, and maximum body of the latex should be maintained consistent with the optimum performance of the particular coating applicator.

Saran F-122 Latex coatings are indicated for greaseproof applications on various types of paper and paper-



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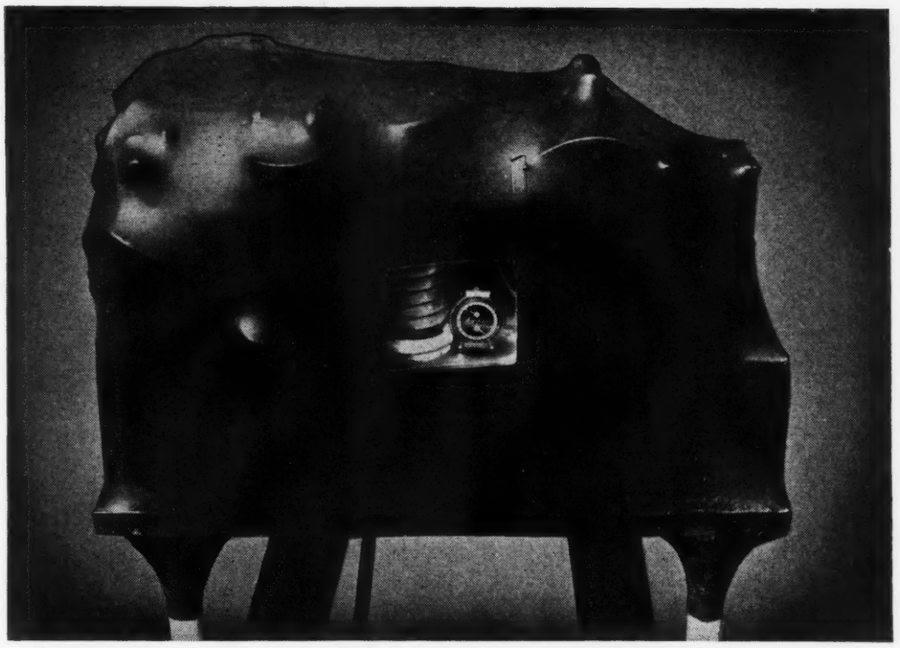
***9**—Showing the determination of latex viscosity using Brookfield Syncro-Letric Viscosimeter.* ***10**—Preparing test bags in the continuous belt sealer by heat-sealing paper coated with Saran F-122 latex to be used for chemical resistance determinations.*

11



11—Application of film-forming Saran resins to long-term storage type of spray package. Article to be packaged is first taped, forming an open structure over which Saran F-120 is sprayed. This produces cobweb-like base for the final coat of Saran F-122 latex. **12**—*Application of a decorative and protective coating to fibre containers.*

boards. The excellent mechanical properties of the film, particularly those that have been plasticized, provide a flexible barrier which will withstand folding and scoring operations. This, together with their heat-sealing properties, provides a convenient means of fabricating hermetically sealed envelope-type bags for packaging greasy products of various types. Corrosive chemicals and the like can similarly be safely packaged. These coatings are equally suitable for application to protective food packaging papers since they are sufficiently odorless and tasteless.

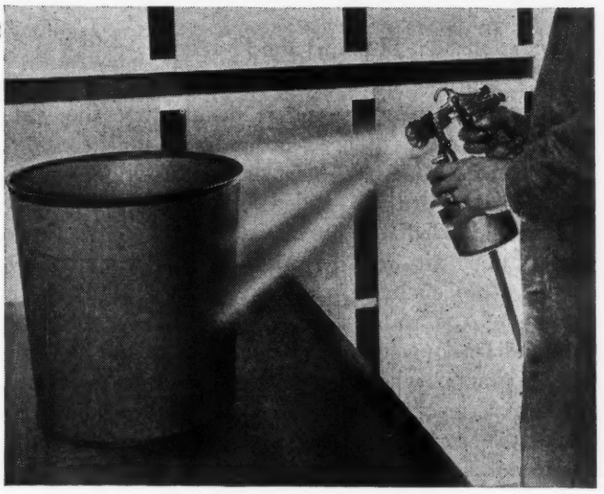
The waterproof nature of the dried Saran latex coating is useful for providing protection to water for shipping containers, gummed tape backings and specialty products. Its application to paper twine and fibre cord markedly increases its strength and durability by reason of the deposited plastic film. Woven paper cord thus treated is easier to clean and more resistant to soiling.

Saran latex-coated paper is suited for cap liners where water-vapor impermeability requirements are not too

TABLE II—EFFECTS OF PLASTICIZER ON OTHER PHYSICAL PROPERTIES

Test	*Percent Dibutyl Phthalate in Film*		
	15%	*20%*	*25%*
Block Temperature (1 lb./sq. in. for 1 hr.)	110° C. (230° F.)	100° C. (212° F.)	80° C. (176° F.)
Heat Seal Temperature (Continuous belt sealer 15 ft./min.)	130° C. (266° F.)	115° C. (239° F.)	95° C. (203° F.)
Elmendorf Tear	100	850	Too elastic
Fold Endurance (cycles)	85,000	176,000	....
Percent Light Transmission through 3 mil film			
4,000 Å	77.0	69.0	62.5
5,000 Å	86.0	81.5	78.0
7,000 Å	89.5	89.0	86.5

12



severe. Its solvent and chemical resistance are particularly suited for specialized applications in this field.

Molded pulp articles are easily sprayed or dipped by this latex to provide a tough, attractive, durable coating. Fibre pails may be sprayed or slush coated as a convenient means of water- and greaseproofing.

Additional Uses. The Saran coating latices have been found useful in a broad range of applications. As coatings on cloth, leather, plastics and foils they provide heat-sealable finishes of excellent appearance resistant to water, greases, oils and a wide variety of chemicals, and exhibit low rates of vapor transmission.

Free films and tapes cast from the latices are of interest in the packaging field.

Because of the recent introduction of this type of latex and allocations restricting its use to the war effort, the wide and varied fields of application are as yet unexploited. Development work is continuing to provide improved formulations for specific applications.

Sorptive paperboard in protective packaging*

by R. C. Rietz† and L. O. Anderson†

Protective packaging techniques were considerably improved during the war period, because of the need for greater assurance that the Armed Forces would receive serviceable equipment and replacement parts. The objectives of protective packaging were clearly defined during this period and packaging methods and packaging materials were developed at the Forest Products Laboratory and elsewhere. The Method II pack employing an impervious moisture-vapor barrier and a desiccant to provide corrosion control by the maintenance of a low relative humidity within the pack has received its due share of publicity. Another method of packaging was developed during the war period which can well be given considerable scrutiny, however, because of the promise that it has for postwar packaging. This is the Method I-a-2 pack.

War performance of the Method I-a-2

The Method I-a-2 pack is a non-conforming I-a pack. By non-conforming is meant that the water barrier is usually placed around the unit container rather than around the part or item as is done in the Method I-a-1 or the so-called conforming pack. Early studies indicated that the expansion and contraction of the trapped air within a Method I-a-2 pack, due to temperature changes, would eventually result in the failure of the water barrier. Thus, the conforming Method I-a-1 pack was recommended as the more desirable practice where the nature of the item permitted. Field experience indicated that this pack was not performing according to expectations whereas the non-conforming pack was giving superior performance in spite of the entrapment of air within the package.

This called for a check of field experience against Laboratory tests to determine, if possible, the causes of such contradictory package performance. Laboratory studies have confirmed field experience in that the Method I-a-1, or conforming pack, did not provide protection so good as the method I-a-2, or non-conforming pack. The next problem was to find out why.

Field experience with Method II packaging developed an idea which constitutes a plausible explanation for the superiority of the I-a-2 pack as compared with the I-a-1 pack. Experience with Method II packaging indicated that under the best of conditions the closures of the moisture-vapor barriers were not always satisfactory. It has been said that as high as 10% of all Method II packs were improperly closed, yet few of the services reported packaging failures in a quantity that could be considered as alarming and the unsatisfactory reports certainly did not balance the number of estimated unsatisfactory barrier closures. It was concluded, therefore, that corrosion control in Method II packs was being gained by some other method than by the maintenance of a low relative humidity as infiltration of moisture through open seals or tears in the barrier would soon establish atmospheric conditions within the barrier quite similar to that of storage.

The argument was advanced that the spent desiccant or any other hygroscopic material within the pack acted as a sorptive material with changes in exposure temperatures so that condensation of water on the metallic item or part was prevented or was materially reduced. The idea was based on the assumption that if a film of free water can be prevented from forming on a corrosible part a decided step has been taken in the prevention of serious corrosion.

Although Method I-a packs do not contain desiccants, the I-a-2 pack does contain sorptive material in the form of paperboard used for cartonizing the item. It is believed that the presence of this sorptive material accounts for the superior performance of this method of packaging.

Action of sorptive materials

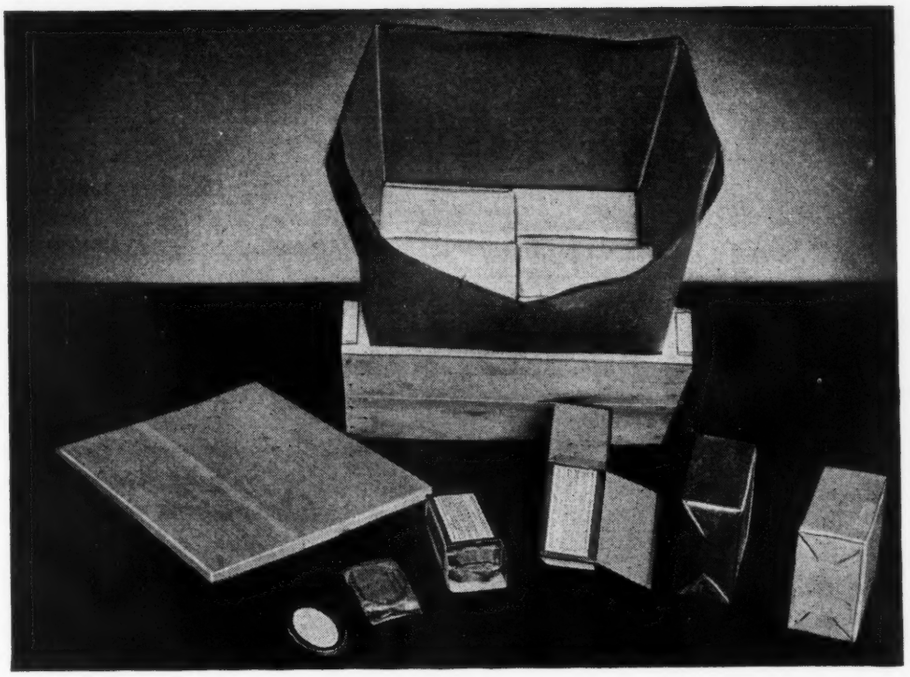
The success of the Method II and the I-a-2 pack, it is believed, demonstrates that the presence of sorptive material is effective in reducing deterioration due to corrosion, particularly when the barriers are ruptured. It is essential, however, that the mechanism whereby this control is gained be established and proved to the satisfaction of the packaging engineer if the principle is to be exploited.

Activated dehydrants such as silica gel rely upon their affinity for moisture to maintain a low relative humidity within a package and thereby control the conditions under which corrosion may develop. Desiccants, however, adsorb greater quantities of water per unit change at a low rather than at a high relative

* From a paper presented at the Annual Meeting of the Technical Assn. of the Pulp and Paper Industry, New York, Feb. 28, 1946.

† Engineers, Forest Products Laboratory, Forest Service, United States Department of Agriculture. Maintained at Madison, Wisconsin, in co-operation with the University of Wisconsin.

Exhaustive experiments at Forest Products Laboratory indicate that the sorptive action of paperboard in the nonconforming I-a-2 pack results in better corrosion protection than is provided by the conventional conforming Method I-a wrap. The authors recommend that in postwar commercial packaging a water-vapor barrier always be placed outside rather than inside the unit container.



An example of Method I-a-2 pack is this one for tire patch kits. Sealed in corrosion-resistant wrappers, two kits are placed in a paperboard box and four boxes are overpacked in a larger paperboard box which is wrapped, sealed, wax-dipped and finally overwrapped and sealed. For shipping, a wood case with waterproof liner is used.

humidity. On the other hand, a hygroscopic material, such as wood fibre in its many different forms, adsorbs a small quantity of water with a unit change in relative humidity at the low values but a much greater quantity per unit change when exposed to a relative humidity in excess of 75%. This characteristic of hygroscopic materials to adsorb more moisture per unit change in relative humidity at high values than at low is a property believed to be highly effective in packaging. This property distinguishes sorptive materials from desiccants.

Assuming that the water barrier in a Method I-a-2 pack has been ruptured, the mean relative humidity within the pack is expected to be the same as that of the exposure conditions of storage. In an unheated warehouse, changes in temperature are apt to result in a condition conducive to the condensation of vapor on the metallic item or part within the pack. As the temperature drops the relative humidity within the package increases but the hygroscopic sorptive material tends to adsorb the moisture and the higher the surrounding relative humidity, the more moisture the sorptive material will adsorb. Condensation of moisture on the metallic part is not apt to take place during this period as it remains at or is warmer than the surrounding atmosphere or packaging material. As the temperature of the storage condition increases, the packaging material and the atmosphere within the package also increase in temperature but the rate of temperature rise of the metallic part is apt to lag because of the insulating effect of the packaging material.

Thus the metallic part is apt to act as a condenser, even though the air temperature is rising. This actually happens in Method I packs and the corrosion-preventive compound must tolerate a considerable amount of free water or serious corrosion takes place. Under the same conditions the sorptive material in a Method I-a-2 pack has adsorbed the moisture made available by an increase in relative humidity and it tends to retain moisture even though rising temperature reduces the relative humidity within the pack. The sorption of moisture by the hygroscopic packaging material and moisture retention for a sufficient period of time to allow the metallic part to warm prevent con-

TABLE I—CORROSION RATING CHART. NUMERICAL DESIGNATION OF OBSERVED CORROSION

Type	*Few very small spots*	*Few small spots*	*Few medium spots*	*Few large spots*	*Area in per cent*					
					5–10	*10–20*	*20–30*	*30–40*	*40–50*	*Over 50*
Stain—very light	1	2	3	4	5	6	7	8	9	10
Stain—light	2	4	6	8	10	12	14	16	18	20
Rust—very light	3	6	9	12	15	18	21	24	27	30
Stain—moderate	4	8	12	16	20	24	28	32	36	40
Rust—light	5	10	15	20	25	30	35	40	45	50
Stain—severe	6	12	18	24	30	36	42	48	54	60
Rust—moderate	7	14	21	28	35	42	49	56	63	70
Rust—severe	8	16	24	32	40	48	56	64	72	80

TABLE II—CORROSION OF SPECIMENS, ACCUMULATIVELY RATED ACCORDING TO TABLE I

After two 8-day-cycle exposure treatments

Barrier or moisture-vapor-transmission rate	*—Method I-a-1 pack—*			*—Method I-a-2 pack—*		
	Sealed	*Ruptured*	*Total*	*Sealed*	*Ruptured*	*Total*
			No preservative			
Grade C	0	0	0	0	0	0
Moderate rate	91	88	179	70	80	150
Low rate	35	0	35	0	0	0
Total	126	88	214	70	80	150
			USA Specification 2-122			
Grade C	9	8	17	6	16	22
Moderate rate	78	76	154	48	78	126
Low rate	14	66	80	0	18	18
Total	101	150	251	54	112	166
			USA Specification 2-82			
Grade C	0	0	0	0	3	3
Moderate rate	6	12	18	0	0	0
Low rate	18	14	32	0	0	0
Total	24	26	50	0	3	3
			Summary of all conditions			
Grade C	9	8	17	6	19	25
Moderate rate	175	176	351	118	158	276
Low rate	67	80	147	0	18	18
Total	251	264	515	124	195	319

densation. The packaging material assists the preservative compound by preventing the formation of a film of free water on the part or preservative film.

The superiority, then, of the Method I-a-2 pack over the Method I-a-1 pack is attributed to the presence of a hygroscopic material in the form of paperboard which, under the unfavorable condition of a ruptured water barrier and changes in storage temperature, controls the formation of free water on the packed metallic item to such an extent that the preservative film is not deteriorated. In the Method I-a-1 pack condensation cannot be prevented after the water barrier has been ruptured and the preservative film deteriorates.

The Method I-a-2 pack can be considered as a Method II pack in the early period of its life, particularly if the water barrier has a low moisture-vapor transmission rate. The included packaging material which is not ordinarily considered as being a desiccant tends, if sufficiently dry at the time of packing, to maintain a low relative humidity within the pack.

Superiority of Method I-a-2 Pack

To obtain evidence that the sorptive materials in the Method I-a-2 pack are influential in preventing an accelerated breakdown of the corrosion-preventive compounds used in Method I-a packaging, an experiment was conducted that incorporated both Method I-a-1 and Method I-a-2 packages with and without ruptured water barriers. The test specimen was a steel rod 5 in. long with 3 in. of its length turned to $1^{1}/_{8}$ in. in diameter, and ground to a fine finish and the remaining 2 in. of the rod machined to a diameter of $1^{1}/_{4}$ in. The rods were cleaned and then washed in methyl alcohol to remove perspiration residues. They were then treated with a corrosion-preventive compound, wrapped in a grade A greaseproof wrapper and then packaged in accordance with Method I-a-1 or I-a-2 procedures.

The study included the following variables:

A. Corrosion-preventive compounds
   1. None
   2. U. S. Army Specification 2–122 compound
   3. U. S. Army Specification 2–82 compound

B. Packaging methods
   1. Method I-a-1
   2. Method I-a-2

C. Water barriers
   1. Grade C type 1 greaseproof wrapper, wax dipped
   2. Water barrier with moderately low moisture-vapor-transmission rate (1.6 grams per 100 sq. in. per 24 hours at 100 deg. F. and a moisture-vapor-pressure differential of 43 millimeters of mercury)—heat sealed
   3. Water barrier with low moisture-vapor transmission (0.05 gram per 100 sq. in. per 24 hours at 100 deg. F. and a moisture-

TABLE III—CORROSION OF SPECIMENS, CUMULATIVELY RATED ACCORDING TO TABLE I

After 8-day-cycle exposure and 4 weeks exposure to 120 deg. F.—97% relative humidity and 40 deg. F.—97% relative humidity

Barrier or moisture-vapor-transmission rate	*—Method I-a-1 pack—*			*—Method I-a-2 pack—*		
	Sealed	*Ruptured*	*Total*	*Sealed*	*Ruptured*	*Total*
			No preservative			
Grade C	72	48	120	3	3	6
Moderate rate	136	144	280	104	112	216
Low rate	17	77	94	0	10	10
Total	225	269	494	107	125	232
			USA Specification 2-122			
Grade C	18	22	40	0	16	16
Moderate rate	60	59	119	32	36	68
Low rate	88	78	166	0	9	9
Total	166	159	325	32	61	93
			USA Specification 2-82			
Grade C	10	20	30	1	2	3
Moderate rate	24	27	51	13	9	22
Low rate	5	22	27	0	15	15
Total	39	69	108	14	26	40
			Summary of all conditions			
Grade C	100	90	190	4	21	25
Moderate rate	220	230	450	149	157	306
Low rate	110	177	287	0	34	34
Total	430	497	927	153	212	365

vapor-pressure differential of 43 millimeters of mercury)—heat sealed

D. Barrier closures
   1. Good—fully sealed by wax dipping or heat sealing
   2. Ruptured—small hole cut in sealed barrier

E. Exposure without rough handling
   1. Standard 8-day cycle repeated once
   2. Standard 8-day-cycle exposure followed by exposure to 120 deg. F. and 97% relative humidity for 6 days and to 40 deg. F. and 97% relative humidity for 1 day, continued for 4 weeks
   3. Standard 8-day-cycle exposure followed by exposure to 120 deg. F. and 97% relative humidity for 6 days and 40 deg. F. and 97% relative humidity for 1 day, for 8 weeks.

Two steel rods were packed in accordance with each of the above variables—that is, the sample size was two. After exposure, the packages were opened and the steel rods were examined for the presence of stain or of rust. The severity of corrosion was evaluated in accordance with the rating chart, Table I. For purposes of comparison the arbitrary values were accumulated rather than averaged. The summarized data for the three exposure conditions are given in Tables 2, 3 and 4.

As the exposure conditions were made more severe or extended, the total corrosion developed increased. Each of the tables, however, provides data to show that the Method I-a-2 non-conforming pack is consistently superior to the Method I-a-1 conforming pack regardless of whether the water barrier has a low or high moisture-vapor-transmission rate. In most tests, the Method I-a-2 pack with a ruptured barrier showed less corrosion than the Method I-a-1 pack with the barrier intact. The results are interpreted to mean that the presence of the paperboard in the Method I-a-2 pack was influential in reducing the development of corrosion on the steel test rods. This is the major conclusion to be drawn from this study. An examination of the data shows that U. S. Army Specification 2-82 compound was consistently more effective in the prevention of corrosion than U. S. Army Specification 2-122 compound. Both compounds, however, significantly reduced the corrosion as compared with that which developed on rods not treated with corrosion-preventive compounds.

It was also found that the Method I-a packs using a water barrier having a low moisture-vapor-transmission rate had a significantly less amount of corrosion on the test rods than the packages made with a water barrier having a moderate moisture-vapor-transmission rate. This might be interpreted to mean that a more durable Method I-a pack could be made with water barriers having a low moisture-vapor-transmission rate. The data also tend to show that the grade C wrapped wax-dipped package gave performance results about equal to that obtained when a water barrier having a low moisture-vapor-transmission rate is used.

The corrosion found on the test rods that were packed according to Method I-a-1 and sealed was about equivalent to that found on rods similarly packed but with a ruptured barrier. This would seem to indicate that the sealed barriers of the Method I-a-1 pack subsequently developed ruptures during the cyclic exposure tests equivalent to the ruptures that were deliberately made prior to exposure. This was particularly evident in the fully sealed grade C conforming packs in which small lifts of the wrap had developed.

TABLE IV—CORROSION OF SPECIMENS, CUMULATIVELY RATED ACCORDING TO TABLE I

After 8-day-cycle exposure, 8 weeks of exposure to 120 deg. F. 97% relative humidity, 40 deg. F.—97% relative humidity

Barrier or moisture-vapor-transmission rate	*—Method I-a-2 pack—*			*—Method I-a-2 pack—*		
	Sealed	*Ruptured*	*Total*	*Sealed*	*Ruptured*	*Total*
			No preservative			
Grade C	168	145	313	32	42	74
Moderate rate	161	168	329	156	156	312
Low rate	107	88	195	0	71	71
Total	436	401	837	188	269	457
			USA Specification 2-122			
Grade C	84	84	168	0	68	68
Moderate rate	168	126	294	132	131	263
Low rate	77	90	167	4	40	44
Total	329	300	629	136	239	375
			USA Specification 2-82			
Grade C	16	34	50	0	12	12
Moderate rate	73	44	117	36	40	76
Low rate	10	48	58	0	10	10
Total	99	126	225	36	62	98
			Summary of all conditions			
Grade C	268	263	531	32	122	154
Moderate rate	402	338	740	324	327	651
Low rate	194	226	420	4	121	125
Total	864	827	1691	360	570	930

The data collected in this experiment do not provide information to prove or disprove the suggested theory that sorptive materials are active in controlling corrosion, but the superiority of the Method I-a-2 pack in providing protection is demonstrated. A further correlation between the laboratory exposure tests and field results is needed to establish life expectancies of Method I-a-1 and Method I-a-2.

Military packaging for storage

If field experience and the results of laboratory experiments are acceptable as being indicative that sorptive materials definitely assist preservative compounds in preventing corrosion, the more general use of the Method I-a-2 pack can be recommended with considerable assurance. The elimination of void space is less important than originally believed. More important is the introduction of a sorptive material within the package. This applies to all classifications of protective packaging. Experience in (*Continued on page 254*)

Packaging metal parts . . . 3. Strip coatings

*by Dr. Charles E. Waring**

This is the third and concluding article of the series by Dr. Waring summarizing wartime advances in the packaging of metal parts and their adaptation to peacetime operations. Formerly in charge of research for Frigidaire, Dr. Waring was instrumental in the development and testing of strip-coat packaging.

Early in 1944, a new packaging material was introduced in the packaging field. The material was variously known as ethyl cellulose, "hot melt," "hot-dip compound," and, in Army terminology, "Compound, Ethyl Cellulose, Stripping."

It consists of a combination of ethyl cellulose, oils, waxes and resins which becomes completely molten at temperatures of 375 deg. to 400 deg. F. When cold metal parts are dipped in this molten mix, they are enclosed in a film of the plastic compound varying from 70 to 100 thousandths of an inch in thickness, which forms no bond and has no adherence whatever to the metal surface; hence, this plastic film can be stripped from the metal part just as one peels an orange.

Because the film was resistant to both liquid water and water vapor, and because it had a reasonable degree of strength, toughness and abrasion resistance, it provided an acceptable means of protecting metal parts against all the factors of corrosion and physical damage involved in wartime shipping conditions. Because of the fact that it was applied in the molten state, it accomplished this end with the smallest possible number of operations. Because of the ability to remove it by one simple stripping operation, it offered much saving in time and effort in de-preservation. This was particularly true when comparison was made with heavy

* Technical assistant to president, The Davison Chemical Corp., Baltimore, Md.

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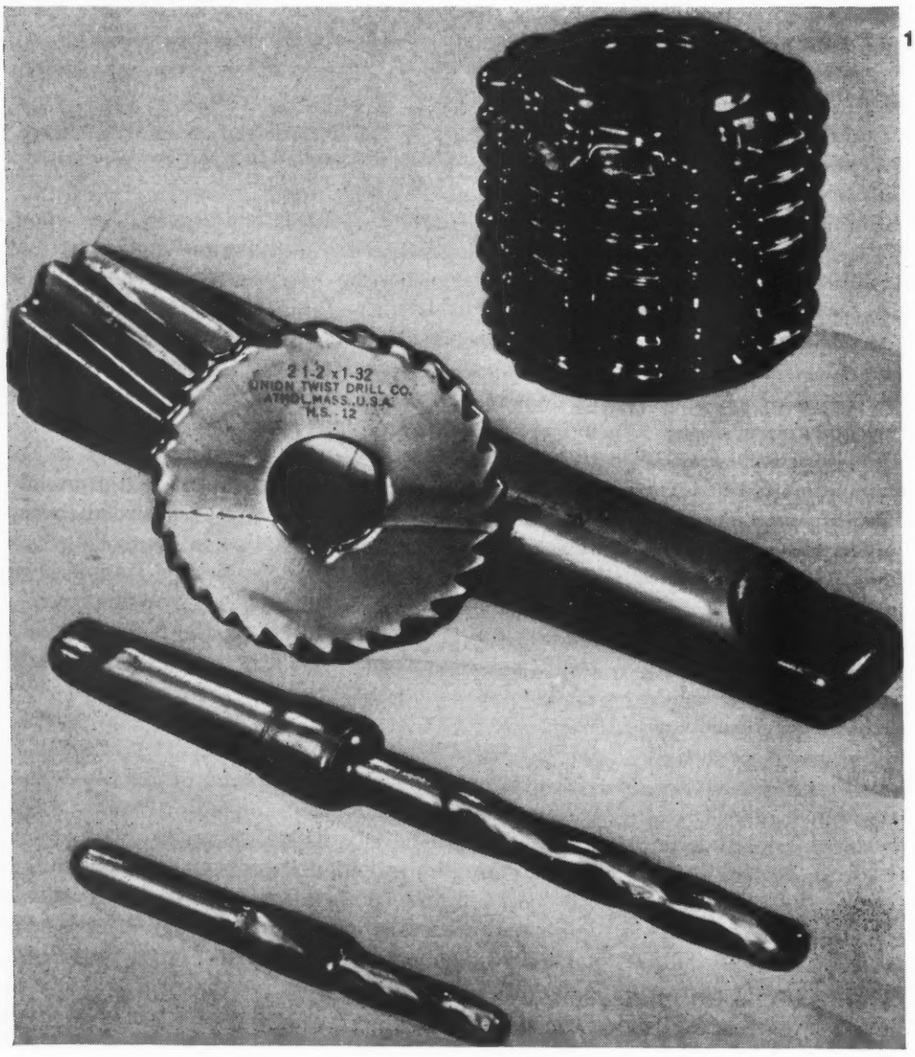

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1—*For commercial use, transparent type ethyl cellulose hot-dip compound may be preferable. In this case, it makes part numbers and sizes visible through coating; no other labeling is needed.*

PHOTO COURTESY DOW CHEMICAL CO.

2—Suggested applications to consumer items are these strippable coatings on typical household hardware pieces.

wax-type corrosion-preventive compounds which usually require applications of hot solvents before the parts could be put into service.

It was also thought originally that the plastic film might replace wrapping, cushioning and cartoning to a considerable degree. This hope has not been fully realized, for it has been found that heavy parts always require some cushioning to protect the film; while cartoning is frequently necessary for segregation and identification of the parts.

New butyrate stripping compound

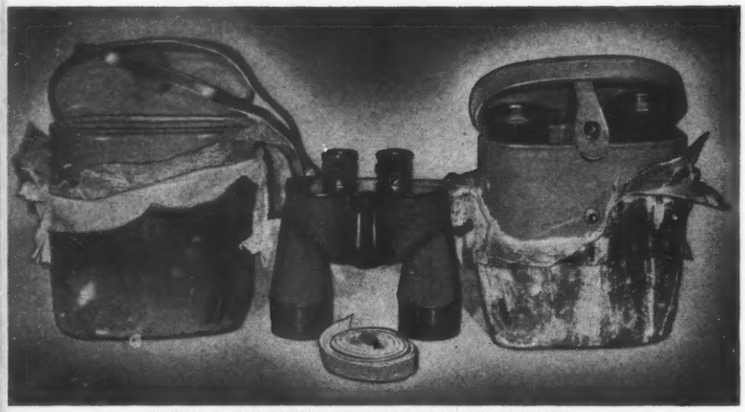
During the last year, plastic strippable packaging has made further advances. A new type of coating, based on cellulose acetate butyrate, has made its appearance on the market and has been recognized by applicable Government specifications. The new material has special characteristics all its own, which make it complementary rather than competitive to the previously accepted ethyl cellulose stripping compound.

The ethyl cellulose compound contains about 25% of ethyl cellulose as a base, the balance of the ingredients consisting chiefly of oils, waxes and resins. It is transparent, but becomes an opaque white on long exposure to high relative humidity. It is applied at dipping temperatures of 375 deg. to 400 deg. F., and on cooling passes through a gelation stage which causes it to set rapidly with a minimum of "string" time. It deteriorates rapidly from over-heating in the melting tank, but can be used very satisfactorily with proper melting equipment designed with accurate thermostatic control and even distribution of heat. It can be applied to any metallic part from which it can be stripped easily and conveniently.

The cellulose acetate butyrate material contains about 50% of the base plastic in the formula. It is transparent and maintains its transparency even under high humidity exposure. It is applied at temperatures from 300 deg. to 350 deg. F., preferably at the high end of the range. Due to its somewhat lower application temperature, it deteriorates less due to aging in the melting tank. It does not pass through a gelation stage and hence has a longer "string" time. Sometimes it cannot be applied to parts with thin sections and low heat capacity (such as piston rings) because it slides off before it sets. It has approximately twice the load-carrying capacity of the ethyl cellulose compound and can be applied to heavier parts without danger of "squeeze-out" or "cut through." It has lower tensile strength, higher elongation and greater strippability; hence it can be applied to and stripped from parts of greater intricacy (smaller holes, greater undercuts, etc.). With all these advantages, it costs approximately twice as much. Both the higher cost and the more versatile properties are due to the fact that it contains about 50% of plastic in the formula, as contrasted to 25% of the plastic in the corresponding ethyl cellulose formula.

Application of both of these materials is either by the string suspension method or by the double-dipping method.

String suspension permits the dipping in a single



PHOTOS 3, 4, AND 5, COURTESY FRIGIDAIRE DIVISION, GENERAL MOTORS

3—Binocular cases have been wrapped in greaseproof paper and airplane cloth before dipping in hot-melt compounds for utmost protection. Dip on the left is new acetate butyrate; on the right is ethyl cellulose dip.

operation, but introduces other complicating factors. String must be used which will not wick moisture into the interior of the coating; this usually requires pre-impregnation of the string with a corrosion-preventive compound. Unimpregnated strings also frequently contain enough moisture to produce pronounced bubbling at the temperature of the dipping bath. This difficulty can be eliminated by pre-drying the string in a closed container with silica gel. Some processors also make it a practice to clip the string and then seal over the string opening with a soldering iron.

Double dipping is accomplished by dipping first one end of the part, then the other end, with about a one-inch overlap. The ethyl cellulose compositions do not form a true bond or weld at this overlap, but are sufficiently adhesive to prevent the ingress of water or moisture. The cellulose acetate butyrate formulations do form a true weld in this respect.

4—Aircraft engine valves dipped in acetate butyrate have been exposed to 100% relative humidity at 100 deg. F. for 720 hours without any damage. The photo shows the two valves at left with coating half stripped off; at the right, two halves of coatings that have been removed.

Peacetime adaptations

The preceding discussion outlines the background of knowledge and experience with respect to these materials as they existed at the end of the war. Much had been learned about the advantages and disadvantages of these materials by wartime experience. Now that we are in the conversion period from wartime applications to peacetime commercial applications, it is opportune to take stock of the situation and evaluate the advantages and disadvantages of these materials. It may also be well to point out new fields for exploitation and new techniques in the application of the materials which may eliminate some of the disadvantages which have been encountered in practical experience up to this time.

When these materials were introduced, it was forecast that although the materials themselves were relatively expensive, the over-all method would save money in operation because in almost every instance where it could be used, considerable saving in labor would result. This forecast has been borne out in large measure by experience.

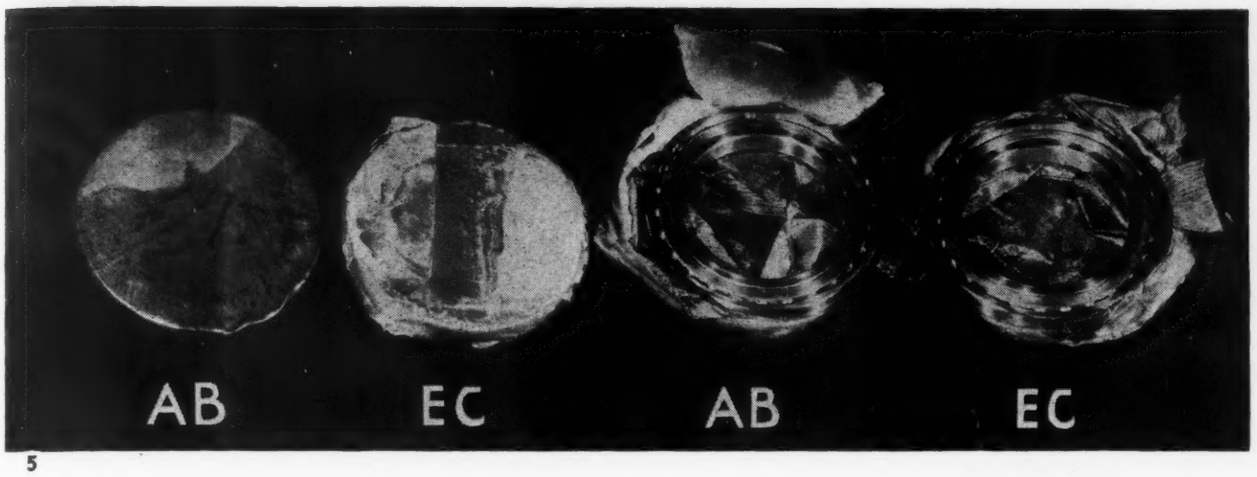
In almost every instance where the stripping compounds were adaptable, labor savings of some 50% to 90% over previous methods have been realized. This takes into account only the labor savings in the manufacturer's plant and does not attempt to evaluate the labor savings for the user.

It was also forecast that the material when applied with the proper technique would give protection beyond any other method previously tried. This prediction has not been entirely fulfilled. Reports of overseas shipments have indicated some failures due to brittleness of the coating. In almost every instance, this brittleness has been traced to over-heating of the material in the dipping bath, or to improperly designed heating equipment with localized hot spots which produced excessive degradation of material during processing.

Possibly the most serious difficulty encountered in actual practice was the limitation of applicability to a relatively small percentage of metal parts. It was found that the compound could not be readily stripped from parts having small crevices, blind holes, long-drilled passages or highly irregular contours. These limitations were such that the parts on which it was used had to be specified by part name and number. Its application to complicated assemblies was almost impossible because it was frequently found that the stripping of the film from such an assembly was very tedious. As a general average, it can be said that no more than 25% of the parts in any given assembly were adaptable to the hot-melt stripping compounds applied by the usual techniques.

Melting equipment

It was found by many manufacturers that it was very difficult to obtain satisfactory melting equipment. Laboratory work as well as experience indicated that



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5—Roller bearings packaged in acetate butyrate (AB) and ethyl cellulose (EC) were first dipped in preservative, wrapped in greaseproof paper and airplane cloth, and then dipped. Shown after exposure to 100% R.H. and 100 deg. F. for 720 hrs. Aluminum foil may be substituted for paper and cloth wrap in this case.

melting equipment should have walls which were very uniformly heated and that no portion of the melting tank should be more than 25 deg. F. hotter than the coolest portion of the tank. Since much of the first equipment was designed for electrical heating, using thermostatically controlled strip heaters, this uniform heating requirement was not met and much degradation and failure of the compound resulted.

As a preview of commercial operations, let us take a look at what progress has been made in finding solutions to these difficulties. Some progress has been made in new formulations of greater elasticity and flexibility, thus permitting them to be stripped from more irregular shapes and from smaller holes. This only partially solves the problem.

New application technique

The greatest advance toward making the stripping compound uniformly applicable in the metal parts packaging field is an entirely new technique for irregularly shaped parts and assemblies. This technique consists of first wrapping the part with a satisfactory conforming barrier and then dipping in the stripping compound in the usual manner.

The two most satisfactory materials that have been used to date are cloth and aluminum foil. Not all types of cloth are satisfactory because of variations in weave, finish, stiffness, etc. The most satisfactory fabric is one similar to the airplane cloth used as wing-covering material. This cloth is designed to serve as a base for the lacquers used in the airplane industry and has the proper characteristics to accept the hot-melt stripping compound as an over-coating material. The technique is illustrated in the accompanying photographs showing its application to anti-friction bearings. These intricate assemblies had defied all other attempts to package them in a stripping compound. Metal foil can be used similarly.

It should be pointed out that satisfactory dehydrated (Method II) packages have been made by this latter technique, since the combination of foil and plastic overdip provides a very efficient water-vapor barrier. It is believed that this technique, in particular, provides a very economical and satisfactory method for dehydrated packaging.

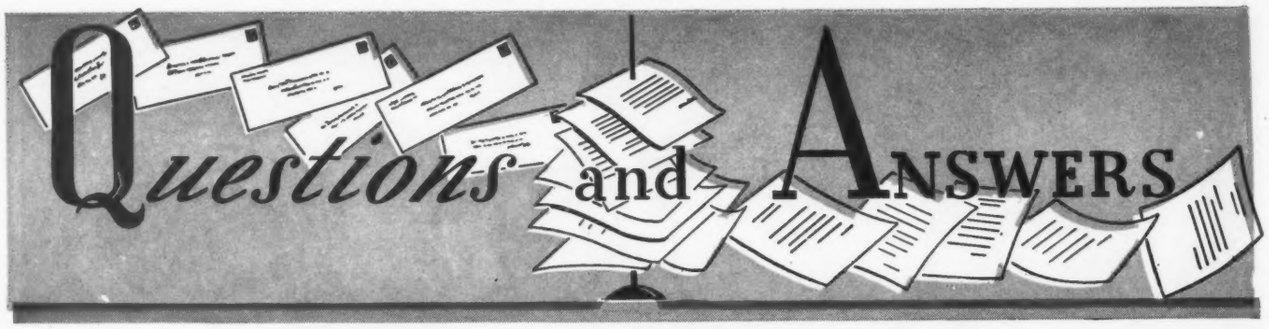
Much progress has been made with reference to the engineering of satisfactory heating equipment for the application of these materials. Such equipment is designed to use a heat-transfer medium to provide uniform heat distribution. Such a heat-transfer medium may be hot circulating oil or condensing Dowtherm. Such carefully designed equipment does an excellent job, but is considerably more expensive than the relatively simple equipment first offered for the purpose. In combination with newly developed compounds of greatly increased heat stability, the problem of over-heating and degradation has been largely eliminated.

By using all the new improvements in materials and techniques, it is now believed that the method is applicable to almost any type of part or assembly.

Cost reduction

Much remains to be accomplished in the field of cost reduction. It is believed that ingenious engineering studies could devise means by which the method could be completely conveyorized, thereby eliminating a considerable portion of the remaining hand labor. It is also believed that compounders can vary the characteristics of the melt to produce lower-priced compounds with somewhat lower physical characteristics. Some compounders have stated that if a considerable sacrifice can be made in the strength of the compound, a product with formulation costs comparable to microcrystalline wax can be produced.

The combination of a low-cost material with fully engineered conveyorized application would make the method widely applicable in industries where mass production is necessary.



This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 122 East 42nd St., New York 17, N. Y. Your name or other identification will not appear with any published answer.

Waterproof can labeling

QUESTION: I have a problem in labeling a metal can with a waterproof label. The product is a dry powder which necessitates a label which is resistant to disintegration or removal when the package is handled by wet hands or stored in moist places.

ANSWER: A paper label capable of undergoing the conditions which you have specified must be made of special stock surface treated in some way and adhered to the can by waterproof adhesives.

The first requirement can be met by the use of so-called wet-strength papers which consist of a long fibre paper which has been given wet strength by the inclusion of certain resins in the paper-making process. You will find paper of this kind being offered by many different paper suppliers.

It will be necessary for you to supply this paper to your printer so that he can make any ink adjustments or changes in his printing process to secure adhesion of this resin-treated paper and also to improve the waterproofness of his inks if they are found to be inadequate under your service requirements. A sample test which should prove the relative merits of the different papers, as well as the coatings, inks, etc., would be to submerge labels printed and unprinted under water at 70 deg. F. for 12 hrs. At the end of that time, a careful examination, including gentle rubbing by hand, should show the difference of the various papers and treatments in terms of their strength and durability under wet conditions. Admittedly, such a test is very arbitrary, but at least it will give you some reproducible means of evaluating samples. Where it is important that your label have wet strength, it will also be an advantage if the finished label is weather repellent and this can be accomplished by using a waterproof lacquer over the printing.

You will find the selection of a solvent-type resin adhesive will depend upon the type of label applicator you are using. It is not necessary to adhere the label completely to the can with such an adhesive but one or two spots along the edge of the label will suffice. In this case, it is also recommended that a wider than normal overlap be used on the back seam. This overlap should be at least 1/4 in. wide. The resulting combination should provide you with a label which will undergo a considerable amount of wet handling without disintegration. However, if such a combination is not satisfactory, it is suggested that you use a lithographed metal can.

Wooden package for foods

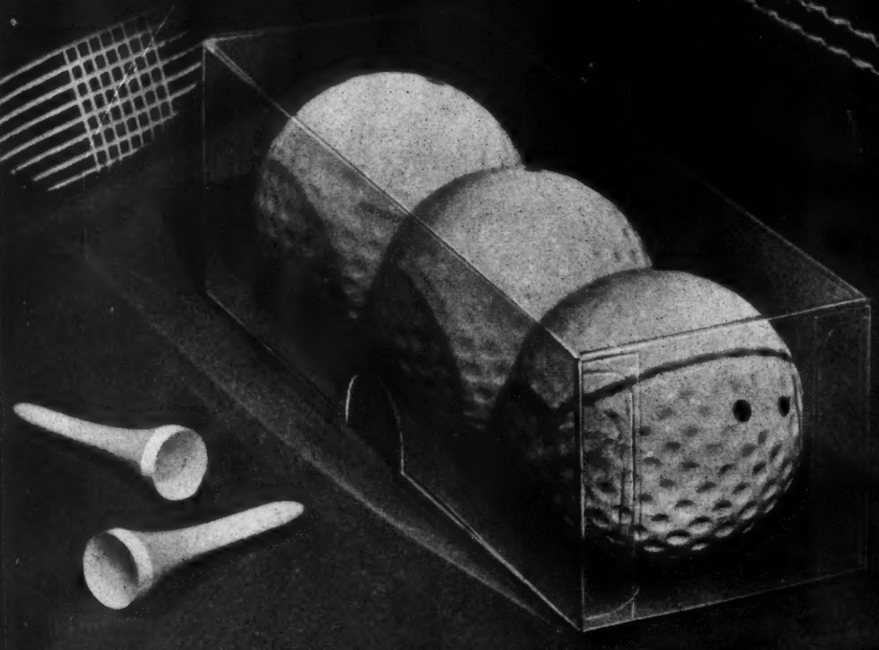
QUESTION: Some foods cannot be packed in wooden containers because they take on the taste of wood. In some cases, we are able to overcome this problem by lining the packages with a coating of paraffin wax. Some are at such a high temperature that the wax is melted. The basic types of foods normally packed in our containers fall into four groups: (1) Jams, jellies and pie fillings, all of which contain phosphoric acid. (2) Fish and meat in vinegar. (3) Fish and meat in brine. (4)Miscellaneous items such as mince-meat, cherries, olives, mustard, lard, etc. Many of those items, particularly those in Group 1 are packed in the pails at high temperatures.

ANSWER: The most satisfactory answer to your problem would be the use of liners of some type in your wooden containers. It would be difficult to find a waxy-type coating which would not melt under the temperatures at which some of these products are packaged. It may be that some of these jams or jellies would be poured into the containers at 220 deg. F. or even higher, depending upon the sugar content. It would also be very difficult and expensive to attempt to saturate the inner wood surface with synthetic resins of various compositions, especially in quantities sufficient to impart the waterproofness and the grain-sealing characteristics which you now obtain from paraffin. It is not possible to specify the particular type of cellophane or parchment or construction which would be most suitable for the particular kind of wooden container for each particular kind of product.

After some experimentation, you can very readily determine which material and which type of liner is most effective for each one of these food products. In every case, it is suggested that you make the liner in slack fits in the wood container so that the loading of the product is taken by the wooden walls.

The top closure can be effected by folding in the top with sufficient turn down, by heat sealing or by other means which might be suggested by your converter.

Foresight in Packaging



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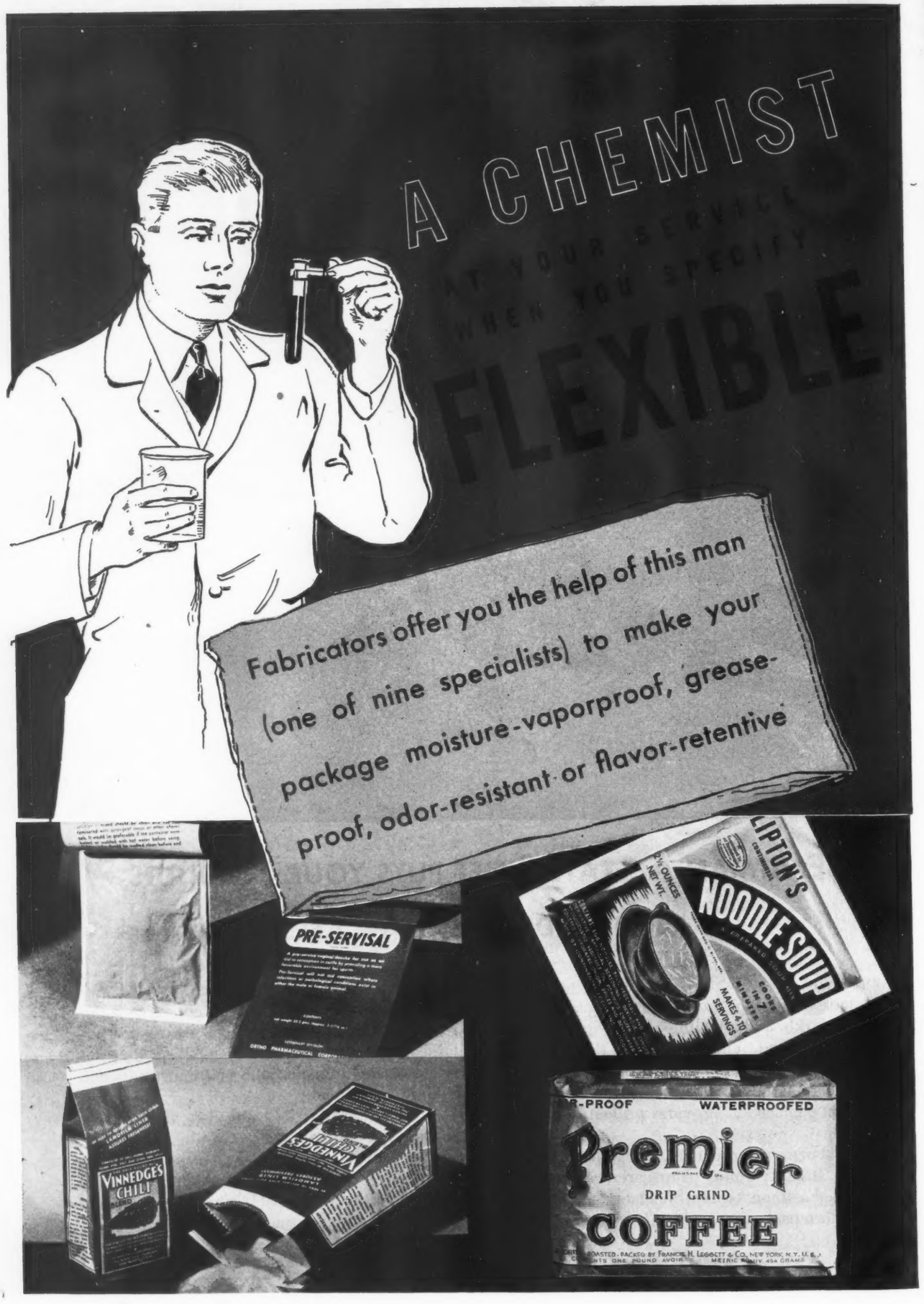
A CHEMIST
AT YOUR SERVICE
WHEN YOU SPECIFY
FLEXIBLE
Fabricators offer you the help of this man (one of nine specialists) to make your package moisture-vaporproof, grease-proof, odor-resistant or flavor-retentive
PRE-SERVISAL
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NOODLE SOUP
MAKES 4 TO 6 SERVINGS
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"MY PRODUCT is dehydrated and is easily contaminated by outside odors. I need a package that is both moisture-vaporproof and odor-resistant."

"Our product must remain crisp throughout shelf life. Because it contains shortening, rancidity and grease stain must be prevented. Can you give us a package that meets these specifications?"

"Please suggest a coffee package that will maintain freshness and aroma—one that has good memory value."

The solution to problems such as these frequently requires the skill of *the chemist.* For he is the man who knows how to devise the combinations and applications of the various materials which will increase the protective qualities of your containers.

The chemist is but one of nine specialists working with fabricators to prolong shelf life for your commodities by combating temperature, humidity, grease, odor, and loss of flavor.

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Beier & Company, Chicago, Ill.
Bemis Bros. Bag Co., Indianapolis, Ind.
Benj. C. Betner Co., Devon, Pa.
Alfred Bleyer & Co., Brooklyn, N. Y.
Brown Paper Goods Co., Chicago, Ill.
Capital Envelope Co., Ltd., Los Angeles, Calif.
Central States Paper & Bag Co., St. Louis, Mo.
Central Waxed Paper Company, Chicago, Ill.
Cupples-Hesse Corporation, St. Louis, Missouri
Custom-Made Paper Bag Co., Long Island City, N.Y.
Diaphane Bag Corporation, Philadelphia, Pa.
Dixie Wax Paper Co., Memphis, Tenn. and Dallas, Texas
The Jaite Company, Jaite, Ohio
Kehr Paper Products Co., Philadelphia, Pa.
Kellogg Container Division, United States Envelope Co., Springfield, Mass.
Kennedy Car Liner and Bag Company, Inc., Shelbyville, Ind.
Marathon Corporation, Menasha, Wis.
Mehl Manufacturing Company, Cincinnati, Ohio
Monoca Bag & Mfg. Co., Inc., Toledo, Ohio
Moser Bag & Paper Company, Cleveland, Ohio
Oneida Paper Products, Inc., New York, N. Y.
Orchard Paper Company, St. Louis, Mo.
Paramount Paper Products Co., Inc., Philadelphia, Pa.
Pioneer Paper Bag Co., Los Angeles, Calif.
Thomas M. Royal & Co., Philadelphia, Pa.
C. E. Stevens Bros. Inc., Baltimore, Md.
Union Bag & Paper Corporation, New York, N. Y.
Western Paper Converting Co., Salem, Oregon

FLEXIBLE PACKAGING INSTITUTE
369 Lexington Avenue New York 17, N. Y.

WRIGHT'S Automatic Machinery Company ★

Look Wright for New Advances In Automatic Packaging Machinery

Wright's Automatic Machinery Company will introduce three new automatic packaging machines at the Packaging Exposition in Atlantic City, April 2-5. Exhibit Booths 50, 51 and 52.

CELLULOSE BANDING MACHINE

Automatically applies contractible cellulose bands to the neck of bottles to provide the bottle with a sealing member. Primarily designed for the liquor, wine, food, cosmetic and drug industries.

MAY-PLEX CELLOPHANE WRAPPER

Automatically wraps, seals, and affixes labels on the ends of peanut butter cracker type sandwiches. Primarily designed for cracker sandwiches, cookies, and fig bars.

HY-TRA-LEC WEIGHER

Automatically weighs and discharges free flowing and non-free flowing materials at predetermined net weights with a degree of accuracy at high speeds previously unattainable. Employs a principle of weighing new in automatic packaging machinery. Primarily designed for weighing potato chips, the Automatic HY-TRA-LEC WEIGHER will have wide utility where accuracy and speed are essential.

(The new HY-TRA-LEC Platform Weigher, non-automatic, will also be exhibited. This machine will interest those companies whose quantity of production or setup may not warrant purchase of the Automatic HY-TRA-LEC WEIGHER.)

WRIGHT'S Automatic Machinery Company ★

DURHAM, NORTH CAROLINA

"Pioneers Since 1893 In Automatic Packaging Machinery"

On a waxed carton of frozen food

...AS ON ANY OTHER SURFACE

Labeling and sealing frozen foods and dried foods — these mean new materials, new surfaces, new working conditions. In these rapidly expanding fields, the applications of FILMONIZE Self-Sealing Tapes are multiplying daily. And these tapes — made by exclusive, new, patented processes — are meeting every test.

Manufacturers in many fields are using these tapes — for labeling, for identification by colors, for packaging and case-sealing. The fact that there are no tying, no paste pot, no water, no hot iron — means quicker application, a neater label and a sure, tight adhesion. The tape is of any width, from ½ inch to 18 inches.

Your trade name or trade mark, your slogan, your guarantee, your special message of any kind — is accurately reproduced in black, in colors, or in color combinations. The printing is sealed in under the surface — does not rub off.

We invite the opportunity to show you the wide variety of FILMONIZE Self-Sealing Tapes and to demonstrate the many ways in which they are being used by leading industrial and commercial firms. Wire or write us today!

SEALS WITHOUT WATER

filmonize

TRADE MARK REG.

SELF-SEALING TAPES

INTERNATIONAL PLASTIC CORPORATION

Morristown New Jersey

WASHINGTON REVIEW

● **Paper Shortage to Continue**—Washington observers, both within the Government and outside, foresee that the paper and paperboard shortage will continue not only through 1946 but probably will carry over well into 1947.

Pulp producers assert that the primary reason why they can't produce the needed stock is that they are unable to raise wages sufficiently to attract more men to work in the timber. As a result, many paper grades are going to be almost impossible to obtain before long, with users of lower grades taking an even greater "licking" from the situation than they are now.

OPA has declined to give pulp mills the price increase they declared was necessary to boost the output of pulp. Application for the increase had been before OPA for more than four months.

The industry has been turning out paper and paperboard at the record annual rate of 18,000,000 tons. But the fact remains that postwar demand has risen above this output, with both consumers and distributors trying to rebuild inventories destroyed by wartime demands (and also in anticipation of a price rise later).

The present production rate probably could be increased by at least a million tons if the pulp supply could be increased, it is believed here. But pulp constitutes the big hurdle, particularly for those non-integrated paper mills which do not have their own pulp supply.

Late in 1945 it appeared that the pulp situation would be alleviated by Swedish imports, as imports from that country reached a rate almost as high as that attained before the war. Swedish producers now are contending that they cannot maintain that rate unless OPA grants a 10% ceiling boost.

● **Ceiling Base Changed**—Manufacturers and users of wrapping, converting and protective papers (other than kraft) that contain less than 50% of sulphite or sulphate fibres, and waxing papers are now operating under the specific regulation governing prices of converting and industrial papers. While the OPA action removing these products from the General Maximum Price Regulation and placing them under the specific rule did not change, the existing ceiling prices, which remain at the manufacturers' 1942 levels, it will OPA believes, facilitate price control by having these papers under the same regulation as other converting and industrial papers. At the same time it will enable the price regulating agency to grant individual price ceiling adjustments when manufacturers can show (1) financial hardship, (2) essentiality of production and (3) that buyers would have to pay as much or more elsewhere than the requested higher ceilings.

● **Relief for Bag Makers**—Under another amendment, OPA has provided for applications for individual adjustments by manufacturers who are unable to maintain their production of paper shipping sacks, specialty paper bags and specialty paper envelopes because of existing ceiling prices.

● **Produce Containers**—Producers of berries, fruits and vegetables who did not heed the Agriculture Department's warning last month that orders should be placed immediately for containers for these products are now scouring the market for the remaining available crates, cups, etc. Production of such containers is far below normal and shows no signs of improvement. Particularly affected are the berry growers and shippers in the South, East and Midwest whose crops will soon be ready for market.

Already, the Fruit and Vegetable Branch of the Agriculture Department has received a number of reports of inability to get containers and is trying to locate and direct movement of new and used containers to areas of extremely short supply.

Shortages of logs and labor are blamed for the sub-normal production of wooden containers.

● **Tinplate Hit by Steel Strike**—It was forecast here in Washington during the steel strike that normal tinplate production (even "normal" in these days of tin shortage) would not be resumed until at least five weeks after the end of the steel strike.

At the same time, CPA—at this writing—had declined to set a definite time for relaxation of its ruling that for a "considerable time" after the steel strike's end it will channel tinplate into the production of containers for perishable and seasonable foods. Representatives of the tin container industry were called in to work with CPA in an advisory capacity in working out this "channeling" of production.

● **Frozen Foods Feel Pinch**—The steel strike hit producers of frozen foods and is still a considerable pain to them. Most industrial and institutional frozen fruits and eggs are packed in 30-lb. cans, many manufacturers of which were closed down during the strike.

● **Lanham Bill**—Although it passed the House of Representatives more than a year ago (March 6, 1945), the Lanham Trademark Reform Bill still languishes in the Senate Patents Committee to which it was referred immediately after passage by the House.

There have been flurries of activity, or rather threats of activity, in the committee, chairmaned by Sen. Pepper of Florida, but the latest check indicates that even these have ceased to be and that the measure may die half-enacted in this Congress as it has in preceding ones.

Shortly after V-J day committee attaches thought there might be hearings scheduled soon and even before the close of the war there were predictions that hearings might be held in "a few weeks." Late in 1945, Senator Pepper, along with some other lawmakers, went to Europe and his office indicated that there would be some action following his return. He returned a couple of weeks before Christmas, but no hearings were scheduled.

Meanwhile, trademark practice remains chaotic because of interpretations of the old trademark law and of business customs that are antiquated. The Lanham Bill would: authorize a long-overdue codification of all Federal laws that cover trademarks, adapt trademark protection to national and international business, forbid legal action for infringement after five years of continuous use, sanction "secondary meanings" which have become distinctive, protect geographic and descriptive marks, grant concurrent registration of the same mark to two or more users provided that they originally acted in good faith, enable "related" companies to use a parent company's mark, make it possible to assign a mark without simultaneously assigning an entire business, simplify Patent Office procedure, and adapt our domestic law to our treaty obligations.

on packaging paper is built to the user's needs. If you can use it "au naturel" as it is born in the paper machine, you get "machine finish". If we take the machine finished paper and run it through a series of steel rolls which polish it up, it's "super-calendered finish".

If we put a clay coating on machine finished paper, it becomes "mat finish". If we polish "mat finish" with steel rolls, it becomes "friction glazed finish". If we polish it with stones, it becomes "flint glazed finish".

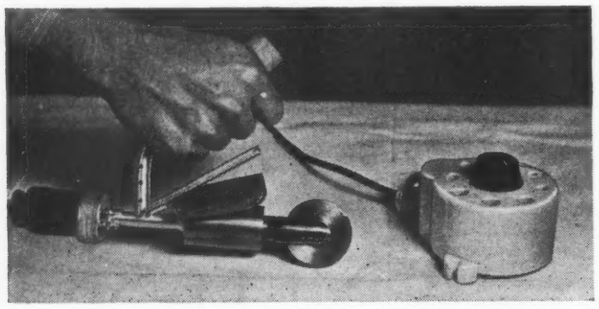
If instead of clay coating you want a "waterproof" surface, we coat with a shellac, varnish or lacquer. A "cast" finish is the result of putting a wet, clay coated surface on a revolving, hot, highly polished drum.

Before we finish our class on "finish," you must be told there are lots of other finishes we haven't room to cover, and if you feel the fund of facts on finish fails to furnish features you need, write MATTHIAS PAPER CORPORATION, 165 W. Berks St., Philadelphia 22, Pa.

Equipment and Materials

PISTOL-GRIP HEAT SEALER

A new development of Sta-Warm Electric Co., Ravenna, Ohio, is their pistol-grip heat sealer. It forms a permanent, moisture-proof, hermetically sealed closure or seal and may be used on all types of heat-sealable films or sheeting. The placing of the



handle of the unit above the roller provides for maximum pressure with minimum amount of effort on the part of the operator. The metal shield and transite baffle prevent the heat of the sealer from reaching the user's hand. Easily removable roller is self-lubricating; interchangeable rollers are available in widths of 3/16 in., 3/8 in., 1/2 in. and 5/8 in. and in two patterns—plain tread and ridged tread. Equipped with rheostat control, the heating unit is rated at 1.5 amperes and may be installed for operation on 110 or 220 V., A.C. or D.C., as specified.

REMOVABLE PRICE MARKING LABELS AVAILABLE

The "peelable" label made by Avery Adhesives, Los Angeles, Calif., restricted during the war period for price marking usage, is once again available. These labels need no moistening for application and may be removed easily without scraping or moistening. Cosmetic and candy manufacturers will welcome the Kum Kleen label back as a price-marking label on gift packages where removal of price from wrapper or box is required.

NEW FLOCKING ADHESIVES

Paisley Products, Inc., Chicago, have added a new line of flocking water-borne emulsions to their already extensive line of adhesives. Developed for flocking on paper and cloth, these adhesives are said to be non-hygroscopic and notable for their flexibility and ease of handling.

SMALL HEATING AND DIPPING TANK

A new portable, one-gallon capacity melting and dipping tank for applying plastic coatings of the strip type to small instruments and parts, such as gauges, plugs, etc., has been placed on the market by Aeroil Products Co., West New York, N. J. Advantages of this bench model tank, claimed by the manufacturer, are: quick heating of the entire load to dipping temperature from a cold start in a matter of minutes; safe and uniform heating; no special wiring—may be plugged into any convenient standard 110-V lighting outlet. A built-in heavy drop rod handle makes it easy to carry the unit, which weighs only 16 1/2 lbs., to any part of the plant. Other features include thermostat controls which maintain heat at required temperature; removable cover with insulated plastic knob handle; and neon pilot light for visual check when heat is on.

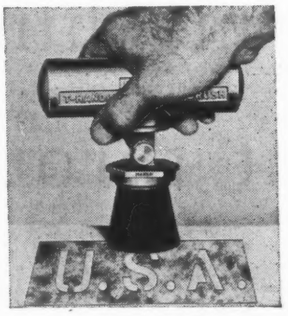
TEXTILE WRAPPING MACHINE

A new machine which wraps textiles, such as shirts, pillowcases, infants' wear and towels on a card at the rate of 40 per min. is being produced by Package Machinery Co., Springfield, Mass. The automatic wrapper, known as the FA2T, operates using cellophane, glassine, sulphite or bond paper; and with the addition of a static eliminator may employ acetate or similar films thus affording improved display and reducing the amount of soilage for such products. Machine takes packages from 4 to 12 in. long; 3 to 5 7/8 in. wide, and 1/8 to 1 1/2 in. in height. It makes a single point twin underfold, said to be advantageous because of the varying height of textile packages.

Articles are first placed on a card, then fed by an operator into the wrapping machine. The side and bottom folds are made separately but the end folds are formed and heat-sealed simultaneously. An electric eye registers the wrapper so the brand or trade name is placed in the correct position.

Easily changeable parts permit wrapping of different size packages. Machine is 15 ft. long, 6 ft. wide and 4 1/2 ft. high.

NEW DEVICES FOR MARKING SHIPMENTS



A new easier-to-use T-handle fountain brush for stencil marking is now available from The Marsh Stencil Machine Co., Belleville, Ill. Brush is useful for stencil marking on vertical and floor-level surfaces, and natural grip handle is said to minimize strain on the operator. Hollow handle provides ink reservoir sufficient for marking 500 stencils before refill. Position of valve button allows operator to regulate the flow of ink with his thumb without any extra motion or loss of time.

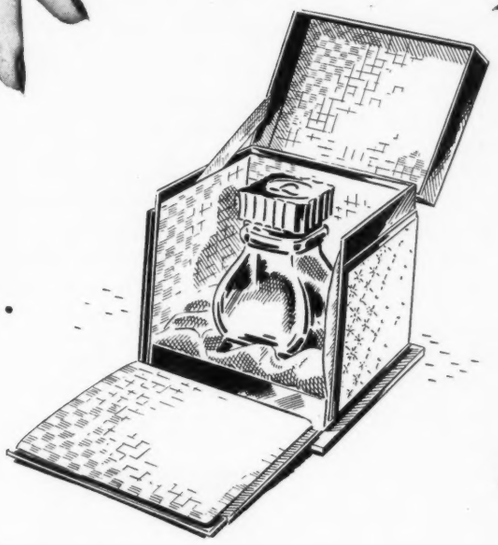
Developed specially for "one of a kind" marking, the new Cado Fountnbrush is practical for marking in clear, heavy let-

ters. It is filled with a special indelible ink that dries instantly, and is equipped with an automatic control valve which regulates the flow of ink when pen is in use. Lines of three different widths can be made with the same nib. Available from Cushman & Denison Mfg. Co., New York.

"THE BETTER THE PRODUCT THE MORE IMPORTANT THE PACKAGE"

SHE PICKS IT NOT...

SHE PICKS IT...



SHE PICKS IT NOT...

SHE PICKS IT...

SHE PICKS IT NOT...

SHE PICKS IT...

THE PRODUCT WITH *Package Appeal*

INTRIGUING SET-UP BOXES
CREATIVE FOLDING CARTONS
UNUSUAL MERCHANDISE
COUNTER DISPLAYS
SPECIALIZED PACKAGING
ROUND BOXES

ACME PAPER BOX COMPANY

STATE AT SIXTIETH ST., CHICAGO 21, ILL.

DESIGNERS • CREATORS • MANUFACTURERS

Plants and People

R. Wellbrock

Richard Wellbrock, after many years as sales engineer for the **New Jersey Machine Corp.,** of Hoboken, N. J., has been appointed sales manager to succeed **Carl Claus,** who recently resigned this position.

With his background of engineering training and packaging studies, Mr. Wellbrock is well equipped to assist production men in the packaging field with their problems with many product lines which require labeling directly on the product itself.

The American Can Co. announces its plan for building a new $1,000,000 can-manufacturing plant at Fort Smith, Ark. Two manufacturing lines, each capable of turning out approximately 350 cans per minute, will constitute the initial production. The new plant will eventually serve the full demands of the Arkansas River Valley and the Ozark region and the company hopes manufacture will start in time for deliveries of 1946 winter crops.

Internation Paper Products division of **International Paper Co.,** New York, announces the opening of a branch sales office in **Boston at 45 Milk St. A. G. Clark** is district sales manager, and his territory covers the New England states and New York State with the exception of Greater New York City. **International Paper Products** sells heavy-duty multi-wall kraft paper bags.

Impression Molding, Inc., has been formed to produce proprietory molded and laminated products employing low-pressure techniques. Headed by **Michael A. Brown, Jr.,** who has resigned from **Monsanto Chemical Co.,** the new concern will commence operations March 1 at North Wilbraham, Mass. **W. S. Larson,** formerly of **General Electric Co.'s** plastics department, will serve as consultant and technical adviser.

Paisley Products, Inc., Chicago, manufacturers of industrial adhesives, announce the appointment of **Skilly T. Knox** as special representative to the set-up paper box, folding box and paper converting field. Mr. Knox, formerly with **Container Corp. of America,** will cover the midwestern territory and assist the Paisley laboratories on technical matters.

Arthur C. Gardner, recently released from the Service, has resumed his duties as sales representative with **Richard M. Krause, Inc.,** New York, package designers and printers.

Service pins were awarded to 139 employees of **A. H. Wirz, Inc.,** Chester, Pa., producers of collapsible metal tubes and plastic specialties, at a recent dinner and entertainment marking the company's 110th anniversary.

The B. F. Goodrich Chemical Co., Cleveland, O., announces the election of **John R. Hoover** as vice-president in charge of sales. Mr. Hoover was general sales manager of plastic materials at Goodrich for many years. **Allyn I. Brandt,** formerly general sales manager of rubber chemicals, becomes general sales manager for all chemical products sold domestically.

The Champion Paper & Fibre Co., Hamilton, O., announces the appointment of **Herbert W. Suter, Jr.,** as manager of its Cleveland sales office. Mr. Suter replaces **C. Frederick Chaplin** who resigned to become vice-president and sales manager of **Dwight Bros. Paper Co.,** Chicago.

Bemis Bro. Bag Co., St. Louis, Mo., announce the election of four new officers: **H. V. Howes,** former director of sales at St. Louis; **H. P. Claussen,** former director of the cotton department at Boston, and **Judson Bemis,** former manager of the Minneapolis plant, were elected vice-presidents. **T. W. Little,** formerly with the burlap importing department was elected treasurer.

Assignment of **A. E. Grundy** to the West Coast as a Pliofilm packaging sales representative has been announced by **The Goodyear Tire & Rubber Co.,** Akron, O. He will be stationed at Los Angeles. **R. T. Hickcox,** former member of the research department, has also been assigned to the Los Angeles sales office to represent the plastics and coating department of the company's new **Chemical Products division. H. E. Williamson,** for many years with the tire sales division at Madison, Wis., has been transferred to the Pliofilm packaging sales department. Mr. Williamson will continue to make his headquarters at Madison, serving as a packaging specialist.

The Closure Division of Crown Cork & Seal Co., Inc., Baltimore, Md., announces the appointment of **R. V. Hansen** as sales representative on the West Coast. Mr. Hansen, who has been with the company for many years, will maintain headquarters in the Los Angeles office of **Western Crown Cork & Seal.**

Harold R. Alley has joined **Arvey Corp.,** of Chicago, as director of research. Well known in the field of chemical research on papers, plastics, wood products and textiles, Mr. Alley was previously associated with **Tested Papers of America, Inc.,** as director of research, and assistant research director at **Standard Cap & Seal Corp.** He is also a past president of the Chicago Professional Paper Group. Research facilities and activities will be expanded at Arvey Corp. under the direction of Mr. Alley.

H. R. Alley

The U. S. Navy Certificate of Achievement has been awarded the **Sylvania Industrial Corp.,** New York, maker of Sylvania cellophane, in recognition of its contribution to the war effort.

The well-known name, **Klapp & Poliak,** will again put in its appearance as a firm serving the packaging field in connection with exhibits. Temporarily suspended during the war years, this firm will resume its activities in the handling of such conventions as the **American Management Assn. Packaging Exposition and Conference,** the **Chemical Exposition,** the **Society of the Plastics Industry,** the **National Confectionery Assn.** and the **National Carbonators & Bottlers Assn.**

Buchanan Associates, Inc., has been organized by **Thomas B. Buchanan, F. Ashton Smith of Valley Industries,** and **Hugh C. Pierson** to engage in the development and production of protective packaging materials, at 220 E. 42nd St., N. Y.

Barnes & Reinecke, designers and engineers of Chicago, announce the appointment of **A. C. Weiss** as special consultant in plastics engineering and package design. Mr. Weiss served with the Navy at Silver Spring, Md., as plastics consultant.

Roger C. Dickey, until February 1 with the **International Paper Box Machine Co.,** is now packaging engineer with **Whitney & Co.,** Leominster, Mass.

THE EVIDENCE looks you in the eye from this impressive group of containers representing the best names in their respective fields. Pneumatic machines play a leading part in the packaging and bottling of these famed products, as they do in many others not shown here. They have been the universal choice of America's foremost manufacturers for more than fifty years and they are more widely employed and highly respected today than ever before. What better proof could you be given that Pneumatic machines produce better packages at a LOWER COST PER CONTAINER?

Follow the lead of these experienced users and consult Pneumatic first on your packaging and bottling equipment needs.

PNEUMATIC
PACKAGING AND BOTTLING
MACHINERY

PNEUMATIC SCALE CORPORATION, LTD.
★ 82 Newport Avenue, North Quincy 71, Mass. ★
New York San Francisco Chicago Los Angeles

Plants and People

(*Continued from page 218*)

Nashua Gummed & Coated Paper Co. announces tentative plans for the erection of a new five-story building to augment its present factory at Nashua, N. H. Expansion plans also include a new building at Peterborough, Ont., for the company's subsidiary, **Canadian Nashua Paper Co., Ltd.,** and **Canadian Sealright Co., Ltd.,** a subsidiary owned jointly by **Nashua** and the **Sealright Co.** of Fulton, N. Y.

Continental Can Co., Inc., New York, announces the election of **Hans A. Eggerss** as executive vice-president. Mr. Eggerss is a director of the company and has been vice-president in charge of paper and plastics. He is also president of **The Container Co.,** a subsidiary.

H. A. Eggerss

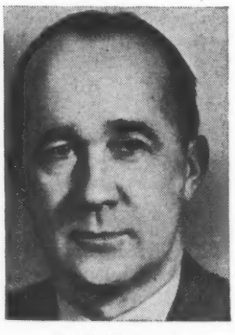
Continental recently acquired the **Fibre Can Machinery Corp.,** Rutland, Vt., manufacturers of an improved style fibre container, and the **Filer Fibre Co.,** Filer City, Mich., manufacturers of kraft pulp and paper. Operations at Rutland will be under the direction of **J. F. Price,** manager of operations for the paper division of the company. The present management will be retained at the Filer Fibre Co. plant and continue under the direction of Mr. Eggerss.

Personnel announcements by Continental include the appointment of **L. Frederick Gieg** as staff assistant to **W. H. Funderburg,** vice-president in charge of sales, and the return of **George H. Muth,** recently released from the Army, as manager of the commercial research department and staff assistant to the vice-president in charge of sales.

Personnel announcements by **Stein, Hall & Co., Inc.,** adhesives manufacturers of New York, include the appointment of **Lt. Col. J. R. Adams** as manager of the development department of its technical division, **Edwin A. O'Neill** as acting manager of its St. Louis branch and **Raymond J. Payne** to the Charlotte, N. C., branch office sales staff.

A. D. Shoup, Jr., vice-president and general manager of **Shoup-Owens, Inc.,** paper box manufacturers, Hoboken, N. J., has assumed the duties of the former sales manager, **J. S. Leigh.**

Frank D. Palmer, Inc., of Chicago, designers of packages and packaging equipment and machinery, announce the appointment of **Theron W. Russell** as manager of the New York office.



R. A. Bennett

Wright's Automatic Machinery Co., Durham, N. C., announces the appointment of **Ross A. Bennett** as sales manager, effective Feb. 1. Mr. Bennett was formerly manager of industrial sales at the **Ford Instrument Co.** Sales activities of the company are expected to increase when a group of new machines is introduced in Atlantic City. **Charles W. Buckley, Lt. Comdr. F. Ray Linda** and **Sigmund Rappaport** have been appointed research engineers.

Major Arthur L. Harris, executive vice-president of the **Atlanta Paper Co.,** Atlanta, Ga., has been awarded the **Legion of Merit** for his contribution to military packaging.

Cadillac Products, Inc., Detroit, has succeeded to the business partnership of the **Cadillac Bag Co.** The change will enable the corporation to produce a more diversified line of products.

Koodin-Lapow Associates, package designers, New York, announce their removal to larger quarters at 250 W. 57th St.

United Paperboard Co., New York, announces the appointment of **Leeds Mitchell, Jr.,** and **Norman A. Olson** as sales representatives for its **Folding Carton Division.**

National Starch Products, Inc., announces the appointment of **S. F. Thune** as manager of its New England division with headquarters at 15 Elkins St., South Boston 27.

C. B. Wiggin

National Can Corp. of New York City, announces the recent election of **Charles B. Wiggin** as vice-president and general sales manager.

Mr. Wiggin is also a director and the treasurer of the corporation and will continue in these capacities in addition to his new duties according to M. M. Rutten, secretary of National Can.

William E. Davies has recently returned to the **International Printing Ink** division of **Interchemical Corp.** after three years of service as a Naval commander.

Plans for the construction of a new building to house the carton and folding box units of **Marathon Corp.,** Menasha, Wis., have been announced.

Gervase M. Magrum has been elected vice-president in charge of production for **Mundet Cork Corp.,** makers of cork closures.

The National Process Co., Inc., New York lithographers, announce the selection of Clifton, N. J., as the site for their new quarters. Existing equipment and facilities will be moved.

Monsanto Chemical Co.'s plastics division announces the establishment of a packaging materials sales department under the direction of **R. C. Evans.**

Major Thomas C. Sheffield, son of **L. Tracy Sheffield,** president of the **Sheffield Co.** and the **New England Collapsible Tube Co.,** has been presented with the Legion of Merit by General of the Army H. H. Arnold, Commanding General, Army Air Forces, for "exceptionally meritorious conduct" as aide to General Arnold. Maj. Sheffield will shortly be released from service and will resume his duties with the **New England Collapsible Tube Co.**

Orville K. Schmied, formerly with **Reynold Metals Co.,** has been appointed works manager of the **Cochran Foil Co.**

Jim Baker & Associates announce the establishment of a new agency, with headquarters at **740 N. Plankinton Ave., Milwaukee, Wis.** Headed by Jim Baker, formerly of **Milprint, Inc.,** the firm will offer to food manufacturers specialized assistance in package design and engineering.

5 Outstanding Packaging Developments BY PALMER

SIFTPROOF CARTONS . . .

More acceptable to the consumer, Palmer siftproof cartons provide *added* protection and strength. Absolutely siftproof and constructed with board-saving simplicity, they are easily filled on high speed Palmer machines soon available—fully or semi-automatic. One-piece ends, recessed or flush, are permanently sealed into the side walls; body can be made with any type of side seam, including "tear-away" opening flap on any panel. Same construction is well suited to many liquid and semi-liquid products.

PAPER MILK CONTAINERS . . .

Built to stand more punishment and give more protection against leakage than most other containers, this Palmer product offers many indispensable features. All seams and flaps are sealed thermoplastically for liquid-tightness. The convenient dispenser, designed for both drinking and pouring, is completely shielded until the container is opened by the consumer, thus meeting sanitary requirements. The flat top and bottom permit easy stacking in the refrigerator or in cases. Flat cartons may be formed, waxed, filled and sealed in the dairy plant on Palmer machinery soon available; also, preformed cartons will be available for subsequent operations in the dairy.

ICE CREAM PACKAGES . . .

These sealed, leakproof cartons contain less board material, have features more appealing to the consumer, both as dispensers and storage containers. Formed, filled and sealed entirely by machinery, Palmer liquid-tight packages save labor and time in the ice cream plant. The automatic machinery (soon available) operates in conjunction with the freezing unit at equivalent speed.

FROZEN FOOD CONTAINERS . . .

Tightly constructed Palmer cartons with heat-sealed liners have been formed by Palmer machinery in frosted food plants for several years. The interiors, wholly sealed against the transmission of air and moisture, have proved their moistureproof qualities under most exacting conditions of use. Also available now is Palmer machinery for forming and closing cellophane-lined locking style containers, and for forming and closing sealed recessed end containers.

SIFTPROOF PAPER BAGS . . .

Packaging with thermoplastically sealed, flexible containers provides operating advantages, including economy in time and savings in materials and in labor. The tight-sealing process requires only heat and contact. Made and filled at speeds up to 100 per minute, Palmer siftproof multi- or single-wall bags are constructed in a variety of sizes, with or without pouring features. Palmer machinery for making and filling these bags is available.

PALMER
CHICAGO

Kindly address all inquiries to . . . . . FRANK D. PALMER, INC

528-34 NORTH WESTERN AVE., CHICAGO 12, ILLINOIS

DESIGNERS AND BUILDERS OF SPECIAL MACHINERY

For Your Information

The Sun Chemical Corp., New York, has been set up to include **General Printing Ink Co.** and 26 other companies in the fields of paints, inks, textile and industrial finishes which formerly were associated with or divisions of GPI. Four divisions of Sun Chemical have been established, to be known as the **General Printing Ink Co.** division, the **A. C. Horn Co.** division, the **Fine Chemicals** division and the **Overseas** division. The General Printing Ink division includes **American Printing Ink, Eagle Printing Ink, Fuchs & Lang, E. J. Kelly Co., Geo. H. Morrill, Pacific Coast** and **Sigmund Ullman.**

The Toilet Goods Assn., Inc., will hold its annual convention May 15–17 at the Hotel **Waldorf-Astoria** in New York. Details of the program are being planned by the association's Convention Committee from its headquarters at 630 Chrysler Bldg., New York 17.

The official historical review of the packaging and packing of subsistence for the Army during World War II, until recently classified by the Government as restricted, is now generally available. Prepared by **Harold W. Thatcher,** Chief of the **Historical Section,** Office of the Quartermaster General, the publication is titled **"The Packaging and Packing of Subsistence for the Army"** and known as **"Q. M. C. Historical Studies No. 10."** The study covers the story only to the close of 1943, and a supplement is planned to cover the remaining period of the war. Copies may be obtained through the **U. S. Government Printing Office, Washington.**

A nation-wide plan to foster industrial research in technical schools and colleges has been introduced by **Research For Industry, Inc.**, Cleveland, O. Designed to correlate the research needs of small industries into an organized program of supervised scientific investigation, Research for Industry proposes to utilize the established staffs extant in the universities throughout the country.

"Surface-Coating with Flock" is the title of a booklet just released by **Rayon Processing Co.** of Rhode Island, Inc., manufacturers of printing and coating flock. Swatches of flocked materials, together with illustrated examples of applications to many products and directions for applying flock are included in the booklet. Copies are available on request to the company, 1024 Tremont St., Central Falls, R. I.

"New Things Ahead for Paper" was discussed by **Ellis Frampton,** of the **Hammermill Paper Co.,** guest speaker at a recent meeting of the **Chicago Professional Paper Group.** Those in attendance viewed a film of Hammermill's complete paper-making operation.

Furniture packaging methods were exhibited by the **National Furniture Traffic Conference** at the annual midwinter home furnishing market, American Furniture Mart, Chicago. Typical packs of dining room chairs, living room suites, case goods and other types of furniture, cut open to reveal the method of inner protection employed were displayed. Placards listed the materials and technique used in each pack. Also included in the exhibit was a conveyor line set-up on which packing methods and steel strapping were shown.

A recent meeting on low-pressure molding and fabricating of plastics held in Chicago revealed a keen interest in this new branch of plastics fabrication. Arranged by the **Society of the Plastics Industry,** the meeting was under the joint direction of **J. E. Stokes,** of **Bakelite Corp.,** and **Robert J. Brinkema,** industrial designer. Products on display included many unusual boxes and display stands.

"Emballages," the packaging magazine which brought to the United States in prewar years information on packaging progress in France, is again being published in Paris. The November 1945 issue is the first to appear here. The publisher, **M. Francois Ollive,** was a recent visitor to the editorial offices of MODERN PACKAGING, where he spent considerable time browsing through recent issues of both the Packaging Catalog and the magazine, to catch up on latest packaging developments in the United States.

Confusion attending trade practices in paper measurement and pricing (see **"For Better Usage,"** Technical Section, this issue) is strikingly pointed up by a booklet in question-and-answer form prepared by **Charles Matthias,** president of the **Matthias Paper Corp.,** Philadelphia. Intended for the guidance of persons new to the paper box business, the "primer" is for distribution to salesmen and other members of the Matthias organization only.

The Technical Assn. of the Pulp and Paper Industry has received the Navy's Certificate of Achievement in recognition of its support of the Government's production program during World War II.

Types of loads and economical methods of handling them are dealt with in four bulletins issued by **The Elwell-Parker Electric Co.,** builder of power industrial trucks. These bulletins, supplementing a booklet **"Industrial Logistics: A Survey for Management,"** are titled **"The Logistics of Boxes," "The Logistics of Barrels," "The Logistics of Bags,"** and **"The Logistics of Bales."** Copies may be obtained for the asking by addressing the company at 4205 St. Clair Ave., Cleveland 14, O.

The application of **Aquastop** synthetic-impregnated, waterproof, sealed case liners is described in a fully illustrated brochure just issued by **Protective Coatings Corp.** Copies are available on request to company headquarters at 689 Main St., Belleville 9, N. J.

Recommended practice for handling, storage and shipment of materials packed in paper shipping sacks is explained in **General Manual No. 1,** published recently by the **Paper Shipping Sack Mfgrs. Assn.** Copies, priced at 25 cents, are available from the association's offices at 370 Lexington Ave., New York 17.

The many advantages manufacturers obtain through the use of informative tags, labels or wraps are highlighted in a 16-page booklet on informative labeling entitled **"If You Could Only Be at Every Point of Sale,"** recently published by the **Dennison Mfg. Co.** Copies of the booklet may be obtained by interested parties free of charge by addressing the company at Framingham, Mass.

"Vinylite Plastics—Elastomeric Compounds" is the latest booklet issued by **Bakelite Corp.** Profusely illustrated, it shows how these compounds have improved already established applications or made possible new ones. Copies may be obtained on request to the Bakelite News Bureau, 300 Madison Ave., New York 19.

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For Your Information

(*Continued from page 222*)

A non-technical booklet entitled **"Plastics Primer"** has recently been issued by **The Dow Chemical Co.**, Midland, Mich. Illustrated with 50 photographs, the 16-page booklet reveals facts about Dow plastics. Copies may be obtained on request to the company's Editorial Service.

Descriptive information and data on the properties and specifications of microcrystalline waxes manufactured by the **Bareco Oil Co.** are presented in a booklet recently published by the company. Copies are available on request to the firm at P. O. Box 2009, Tulsa, Okla.

A complete story on pallets, reviewing their use during the war and bringing pallet information up to date for present-day industry, is contained in a booklet recently released by **The General Box Co.** Copies are available free of charge on request to the company's Chicago office.

Window and interior display ideas and materials are presented in a new **Display Guide** just published by the **Sherman Paper Products Corp.** Copies may be obtained on request to the company at Newton Upper Falls 64, Mass.

A 20-minute motion picture in full color and sound, **"Now for Tomorrow,"** produced by the Owens-Illinois Glass Co., is now ready for showings before meetings of pharmacist groups throughout the U. S. following previews in New York and other cities. Past, present and future drugstore merchandising techniques are compared. Further details may be obtained by writing to Owens-Illinois at Toledo, O.

The National Paper Box Mfgrs. Assn., Inc., will hold its annual convention May 12 to 15 at the **Drake** Hotel in **Chicago.** Those planning to attend are urged to make early train reservations, since ODT Government restrictions are to be revoked March 15.

The Material Handling Society, of Pittsburgh, made plans for **"Perfect Shipping Month,"** which is celebrated in April of each year, at a joint meeting with representatives of the railroad, trucking and aircraft industries and members of the **Traffic Men's Assn.**, the **Shippers Council** and other groups. Discussions revealed how proper packing, handling, palletization, unit loading, etc., benefit shippers by lowering freight costs and cutting down on damage to shipments. Recently elected officers of the society are **T. O. English, Aluminum Co. of America,** president; **Samson A. Huey, P. Duff & Sons,** first vice-president; **W. B. Pritchard, Jeffrey Mfg. Co.,** second vice-president; **L. P. Morris, American Cyanamid & Chemical Corp.,** treasurer, and **Richard Rimbach, Materials Publishing Co.,** executive secretary.

Packaging Institute, Inc., has issued a folder defining its aims and objectives and, in addition, presenting a full list of members of its advisory council, divisional directors and committee chairmen. Copies may be had on application to the Institute, 342 Madison Ave., New York.

The Can Mfgrs. Institute announces the re-election of **George A. Milton,** of the **George A. Milton Can Co.,** Brooklyn, N. Y., as president; **H. Ferris White** as executive vice-president, and **Clifford Sifton** as secretary and treasurer. The new board of governors is composed of **R. Amundsen** of **The Texas Co.**; **C. H. Black** of **American Can Co.**; **E. D. Murphy** of the **National Can Corp.**; **C. C. Conway** of **Continental Can Co.**; **J. F. Egenolf** of **Continental Can Co.**; **D. W. Figgis** of **American Can Co.**; **W. H. Funderburg** of **Continental Can Co.**; **D. M. Heekin** of **Heekin Can Co.**; **V. K. LeComte** of **LeComte & Co., Inc.**; **I. E. Sexton** of **Sexton Can Co.**; **R. S. Solinsky** of **Cans, Inc.**; **J. A. Stewart** of **American Can Co.**; **H. K. Taylor** of **George D. Ellis & Sons, Inc.,** and **E. B. Webster** of **Crown Can Co.**

A four-page booklet in Spanish showing the various types of equipment for breweries, wineries, distillers, bottlers and canners which the **Charles S. Jacobowitz Co.** rebuilds at its factory has just been published by the company. Copies may be had on request to the company, 3080 Main St., Buffalo 14, N. Y.

Discussions on the postwar economic situation and on labor relations featured the recent four-day annual meeting of the **Folding Paper Box Assn. of America** at the Drake Hotel, Chicago. A public relations program to acquaint the public and the manufacturer of packaged goods with the progress being made in the development of paper boxes has been initiated by the association. **Robert S. Harris** of the **Fort Orange Paper Co.,** Castleton, N. Y., is chairman of the public relations committee.

Members of the Wirebound Box Mfgrs. Assn., at their annual meeting in Jacksonville, Fla., February 19–20, were told that the industry's total volume for 1945 was $46,000,000. This figure was about $2,000,000 under the preceding year, due entirely to the shortage of materials, which is becoming progressively more acute, according to the report by **L. S. Beale,** secretary of the association.

Results of a survey conducted by the **Bureau of Agricultural Economics, U. S. Dept. of Agriculture,** and the **Edward S. Evans Transportation Research** have been published in a booklet entitled **"Florida's Production of Agricultural Perishables in Relation to the Development of Air Freight."** Of especial interest is a report on the estimated differential in transportation costs of air-borne and surface-borne produce by the use of lighter containers for air cargoes.

A 16-page booklet on its **Geon** polyvinyl materials has just been published by **The B. F. Goodrich Chemical Co.,** Rose Bldg., Cleveland, O., and is available upon request. Featured by tables outlining suggested applications, the booklet describes the four Geon resins, discusses the many variations possible, and lists properties. Methods for processing are also outlined.

The Fourth Annual Conference of the **Canadian Section** of the **Society of the Plastics Industry** was held at the General Brock Hotel, Niagara Falls, Ontario, on February 6 and 7. This was the first plastics conference held in Canada since V-J Day.

A new series of research positions, designed to make science as a career as attractive as the administrative field, has been announced by the **Technical Division** of the rayon department of **E. I. du Pont de Nemours & Co.** The new classifications, open to chemists, engineers, and other technically-trained persons demonstrating unusual scientific ability, are titled "junior research associate," "research associate," and "senior research associate." Already appointed under the new classifications are **Dr. W. E. Roseveare, Dr. E. F. Izard,** and **Dr. E. V. Lewis.**

CORRECTION: The designer's name for the Mary Chess Roman Bath Oil packages which appeared on page 109 of the January issue was inadvertently omitted. These packages should have been credited to Jon Stengren, Forest Hills, N. Y. On page 114 of the same issue, the label design for "Prestorer" is the work of E. Leonard Koppel of New York City.

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U. S. patent digest

edited by H. A. Levey

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at ten cents each in currency, money order or certified check; postage stamps are not accepted.

Dispensing Receptacle, E. R. Crebbs, San Francisco, Calif. U. S. 2,391,317, Dec. 25. A receptacle for the dispensing of tissue or the like from a roll.

Moistureproofing Paper, R. W. Quarles & A. K. Doolittle (to Carbide & Carbon Chemicals Corp., a corporation of New York). U. S. 2,391,620, Dec. 25. A process of moistureproofing paper which comprises forming on the surface of the paper a non-homogeneous deposit of a resinous vinyl polymer formed predominantly from vinyl chloride and a wax in compatible therewith.

Method of Coating Paper, G. M. Powell, III, & W. H. McKnight (to Carbide & Carbon Chemicals Corp., a corporation of New York). U. S. 2,391,621, Dec. 25. Process for coating paper which comprises dispersing a copolymer of vinyl chloride 86%, vinyl acetate 13%, maleic acid 1%, a copolymer of vinyl chloride 87% and vinyl acetate 13%, and a paraffin wax in a mixture of methyl ethyl ketone, methyl isobutyl ketone and hydrogenated petroleum naphtha.

Container, R. Meller, Oakland, Calif. U. S. 2,391,639, Dec. 25. A container including a wall, a pair of tabs resiliently hinged to said wall adjacent opposite edges thereof and extending inwardly of said container toward each other and maintained with portions thereof in spaced relation to the inner surface of said wall, and means bulging said tabs to provide a pressure cushion for the contents of said container.

Dental Compact, E. E. Smith & W. O. Smith, Pittsburgh, Pa. U. S. 2,391,651, Dec. 25. The combination in a dental compact of an elongated casing, a hollow block slidable in the casing, a receptacle for a dentifrice and other portion for toothbrush.

Treated Metal Sheet and Method of Making Same, R. R. Tanner (to Parker Rust-Proof Co., Detroit, Mich.). U. S. 2,391,656, Dec. 25. A ferrous sheet for forming containers, said sheet being coated with a fine-grained continuous phosphate coating weighing not over 110 milligrams per sq. ft. of coated surface and having exposed areas where, and only where, the sheet is intended to be soldered in forming the container and having dried onto the rest of the surface a lacquer which is resistant to soldering flux.

Envelope, A. M. Broudy, Pittsburgh, Pa. U. S. 2,391,673, Dec. 25. An envelope for binding into a printed publication comprising an integral paper blank having a succession of three connected similar panels, these panels joining one another along fold lines extending crosswise.

Labeling Machine, A. C. Everett (to Pneumatic Scale Corp., Ltd., Quincy Mass.). U. S. 2,391,694, Dec. 25. In a labeling machine, in combination, a conveyer for supporting and conveying successive containers into labeling position, labeling mechanism including a magazine for holding a supply of labels, means for engaging and withdrawing the lowermost label in the magazine, and a control means including a pneumatically operated member for preventing withdrawal of a label from the magazine.

Carton Closing Device, W. C. Johnson & D. Kirk (to Quaker Oats Co.). U. S. 2,391,708, Dec. 25. A machine for folding the flaps on the side walls of a series of tubular cartons of rectangular cross section to form end closures therefor.

Can Collar Mounting, J. Coyle & W. F. Punte (to Continental Can Co., Inc., New York, N. Y.). U. S. 2,391,772, Dec. 25. In a sheet metal container a body portion, an upper end closure seamed onto the body portion, said body portion having an S-shaped bead structure adjacent its upper end including an inwardly directed upper bead portion and an outwardly directed lower bead portion, the body portion between said upper bead portion and the closure being scored to provide a tear strip.

Container, H. A. Eggerss (to Continental Can Co., Inc., New York N. Y.). U. S. 2,391,774, Dec. 25. A container structure comprising a body portion made of fibre board or the like, said body portion being bent inwardly adjacent one and thereof to form an inwardly extending rib and an upstanding flange thereabove and also to form an external groove in alignment with said rib, a head for closing said end of said body portion.

Method of Preparing Water-Resistant Containers, I. McHenry (to Mid-States Gummed Paper Co., Chicago, Ill.). U. S. 2,391,791, Dec. 25. A method of treating a container to render the same water-resistant, said container having an open joint formed by the walls thereof, with the edges of the walls disposed in adjacent relation, comprising adhesively securing a sheet of gummed tape over said joint.

Bag Closure, W. N. Baker (to Bagpak, Inc., a corporation of Delaware). U. S. 2,391,938, Jan. 1. A bag comprising a tubular body having flexible walls and fastening means securing said walls together adjacent at least one end portion of the bag, said fastening means being molded from a plastic material and comprising a plurality of strands extending completely through the walls of said bag.

Carrying Rack, F. Haloski (to Vacuum Can Co., Chicago, Ill.). U. S. 2,392,043, Jan. 1. A carrier for a stack of food containers comprising a base, a pair of uprights secured to said base and a connecting member extending between the upper ends of said uprights.

Apparatus for Controlling the Flow of Liquid into Containers, R. B. McKinnis, Winter Haven, Fla. U. S. 2,392,054, Jan. 1. In a container filling apparatus having a normally closed filling valve, means for moving a container to be filled into filling position with respect to said valve and additional means for moving the filled container from said filling position.

Package, E. W. Quackenbush, Chicago, Ill. U. S. 2,392,062, Jan. 1. A mailing package comprising an envelope-like receptacle having front and back walls open along one edge and formed of a fibrous material, said open edge being scored along a line disposed inwardly of the edges of both walls for bending a portion of the walls back upon themselves to form an overlap of four thicknesses of material.

Bag Filling Device, E. W. Vredenburg, Berkeley, Calif. U. S. 2,392,204, Jan. 1. A device for feeding a free-flowing powdered material into a bag sewn at each end and having filling valve in the side.

Cap, J. W. Frankhanel (to Crown Cork & Seal Co., Inc., Baltimore, Md.). U. S. 2,392,238, Jan. 1. A container closure having a flexible, resilient sealing liner comprising a firm sealing layer deposited from an aqueous liquid containing a water-soluble glue-acid addition product, an insolubilizing agent and a plasticizer, said layer consisting essentially of the water-insoluble reaction product of the said glue-acid addition product and said insolubilizing agent, and said plasticizer.

Bottle Cap, J. D. Tessier, Worcester, Mass. U. S 2,392,274, Jan. 1. A bottle cap for bottles having a pouring lip, said cap comprising a circular skirted bottle neck-receiving element with slots.

Garment Bag, J. H. Vineberg, Ottawa, Ontario, Canada. U. S. 2,392,345, Jan. 8. A garment bag having longitudinal slits down the edges from the upper open end to provide two downwardly and inwardly foldable portions with a pair of downwardly foldable flaps formed in them.

Black Printing Inks, W. F. Goepfert (to Interchemical Corp., New York, N. Y.). U. S. 2,392,376, Jan. 8. A printing ink containing carbon black, characterized by its lack of bloom and halo on printing, and by the excellent dispersion of the carbon black in the composition which comprises a vehicle from the group consisting of oil, resinous and oleoresinous film-forming compositions, and containing a dispersing agent.

Sheet Separating and Feeding Mechanism, W. Pechy (to American Can Co., New York, N. Y.). U. S. 2,392,403, Jan. 8. A mechanism for separating an individual sheet from a stack of sheets in a magazine, comprising a stationary yoke having a pair of spaced parallel arms located adjacent said magazine with an arm movable between the arms of said yoke.

Beverage Container, L. J. Humbert, Wyandotte, Mich. U. S. 2,392,479, Jan. 8. A container for liquids with means for

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handily drinking the contents thereof, comprising a suitable container, with a pair of telescopically associated drinking tubes mounted within the container and including a fixed tube anchored within the container with its upper end having a opening out through the upper side of the container.

Container, H. Sebell, Marblehead, Mass. U. S. 2,392,507, Jan. 8. A container body having an open upper end and an exterior rib adjacent said end presenting an upper edge which constitutes an upwardly facing shoulder situated below the top of the body and also presenting a lower edge which constitutes a downwardly facing shoulder, said rib having a circumferential groove between said shoulders, a closure member for said open end, said closure member having a peripheral skirt.

Can Aligner, N. S. Sells (to Ford Machinery Corp., San Jose, Calif.). U. S. 2,392,509, Jan. 8. A can aligning machine comprising an inclined table provided with troughs for receiving cans in lengthwise position therein with inclined parallel rods forming continuations of said troughs, and reciprocating means for advancing the cans along said troughs, and for discarding them.

Adhesives, C. F. Brown (United States Rubber Co., New York, N. Y.). U. S. 2,392,574, Jan. 8. A composite article comprising a layer of a rubber-like material derived from a partially hydrolyzed polyvinyl ester, a layer of metal having a phenolic resin base coat, and an adhesive coating intermediate said layers, said adhesive coating comprising: hydrolyzed polyvinyl acetate, red iron oxide, lead chromate magnesium oxide and phenol-aldehyde resin.

Box Liner, E. D. Budge & C. P. Hunt & D. E. Lent (to Zellerbach Paper Co., San Francisco, Calif.). U. S. 2,392,575, Jan. 8. An initially flat box liner comprising a rectangular shaped paper blank folded transversely upon itself to form a pair of connected side members one of greater length than the other to form a projecting flap.

Manually Operable Vacuum Releasing Bottle Stopper, K. E. Luger, Minneapolis, Minn. U. S. 2,392,602, Jan. 8. A vacuum releasing stopper for non-collapsible liquid containers comprising an elongated resilient body member having an inner bottle engaging end and an outer end, a chamber of relatively great diameter in the body member adjacent the outer end closed in part by a semi-spherical wall, a bore extending through the body member from the inner end thereof and communicating with said chamber.

Tape Applying Machine, S. M. Newman, Staunton, Va. U. S. 2,392,609, Jan. 8. A machine for applying ripping tape to wrapper stock, comprising a table, means for passing wrapper stock thereover in step-by-step manner.

Packing Case. A. P. D. Belanger, Chicago, Ill. U. S. 2,392,630, Jan. 8. A packing case made from a piece of flexible sheet material scored to provide the several parts, comprising in combination a bottom panel of the sheet material, side wall panels formed thereof, end wall panels formed integrally with the bottom panel at opposite ends thereof, end tabs formed integrally with the side panels.

Induline Ink Toners and Carbon Inks, W. F. Goepfert (to Interchemical Corp., New York, N. Y.). U. S. 2,392,657, Jan. 8. The reaction product of approximately nine parts by weight of lauric acid, and six parts by weight of induline base, the product being an oil-soluble deep blue semi-solid which has a high dispersive action on carbon black in waxy and oily media.

Methyl Violet Ink Toners and Carbon Inks, W. F. Goepfert (to Interchemical Corp., New York, N. Y.). U. S. 2,392,658, Jan. 8. The reaction product of approximately nine parts by weight of myristic acid and five parts by weight of methyl violet base, the product being an oil-soluble bronze-purple liquid of high viscosity which has a high dispersive action on carbon black in waxy and oily media.

Shipping Container, A. I. Lamb, Bay City, Mich. U. S. 2,392,675, Jan. 8. A box for packing projectiles, comprising bottom, side and end walls, a spacer mounted in the bottom of the box and provided with openings of a size to snugly accommodate a projectile cap, a filler member mounted on said spacer and formed with a counterbored seat of predetermined depth therein.

Container, P. M. Gilfillan (to Shellmar Products Co., Mount Vernon, Ohio). U. S. 2,392,848, Jan. 15. An hermetically sealed tobacco pouch comprising a blank of pouch forming material having a heat-sealable surface and being folded upon itself through a predetermined section of fold allowance extending across said plank to provide rectangularly shaped front and rear walls.

Bottle Cap. P. Gavriles, Laurel, Md U. S. 2,392,912, Jan. 15. A bottle closure comprising a resilient cap, a pair of bail members fixed in the cap each having downwardly extended legs terminating in eyelets, a divided ring engaged through respective eyelets of the legs and having respective looped ends and cam means operatively engaged with the looped ends of the ring.

Window Glass Package, E. B. Kincaid (to Container Corp. of America, Chicago, Ill.). U. S. 2,392,927, Jan. 15. A carton for shipping sheets of glass or the like, comprising a unitary sheet of paperboard material scored along parallel lines to provide an initially open-ended and open-topped body portion having U-shaped cross-section and including a bottom panel with side walls hingedly joined to the bottom panel.

Paperboard Drum, R. H. VanSaun (to Container Corp. of America, Chicago, Ill.). U. S. 2,392,959, Jan. 15. A drum of paperboard or similar sheet material comprising a body blank having oppositely disposed edge portions secured together in overlapping relation by staples or the like, to form a substantially cylindrical body member, with closure member for each end.

Line-Starter Cabinet, D. Ellis & J. H. Alspach (to Westinghouse Electric Corp., East Pittsburgh, Pa.). U. S. 2,393,034, Jan. 15. A container, comprising a box member open at its front and having side walls with substantially straight front edges, and closure member designed for covering said box.

Combined Paste Tube Holder and Closure, R. M. Groedel. U. S. 2,393,103, Jan. 15. A carton for a paste tube, comprising a blank folded to form a box having a floor, side walls and one end wall and being open at the top and at the other end, said end wall having a tapered stud projecting therefrom into the box and parallel to the floor, and serving as a retainer for the closed paste tube.

Container, C. D. Fallert (to Gaylord Container Corp., St. Louis, Mo.). U. S. 2,393,356, Jan. 22. A carton comprising a body and a cover therefor, said body having an upstanding wall, and said cover having a top with a vertical opening therethrough and a depending edge flange overhanging said wall, said wall having a locking tab thereon.

Boxmaking, C. D. Knowlton (to Hoague-Sprague Corp., Lynn, Mass.). U. S. 2,393,383, Jan. 22. In a box-making apparatus, a guide having a substantially horizontal surface along which a box-blank may be advanced held in the hands of the operator with a portion depending below the guide.

Article Transfering Mechanism, A. J. Lippold (to Cherry-Burrell Corp., Wilmington, Del.). U. S. 2,393,389, Jan. 22. A receptacle handling apparatus comprising the combination with a suitable support and a turntable rotatable thereon, of a pair of star wheels located symmetrically with reference to a radius of said turntable for the loading and unloading of receptacles and driving shafts for said star wheels.

Method of Making Containers, K. Stuart & A. B. Wilson, Menasha, Wis., & Evanston, Ill. U. S. 2,393,347, Jan. 22. In a method of making a tubular container, the steps of forming a spirally wound tubular container body having an integral continuous lining of thermoplastic material, providing a closure member continuously lined with said thermoplastic material at an end of said body with said linings in contact.

Paper Support, A. A. Johnson (to Autographic Register Co., Hoboken, N. J.). U. S. 2,393,471, Jan. 22. A paper feeding device comprising a feed shaft, spaced relatively narrow rotary paper feeding devices adjustably mounted on the shaft in positions to engage the paper near its lateral edges.

Canning Device, R. H. Wolf, Gary, Ind. U. S. 2,393,491, Jan. 22. A canning device comprising a handle, a pressure arm pivoted to one end of said handle, a perforated steam nozzle disposed directly under and in contact with the outer end of the pressure arm, a tube extending longitudinally through the handle and connected to said nozzle and a steam controlling valve in said tube.

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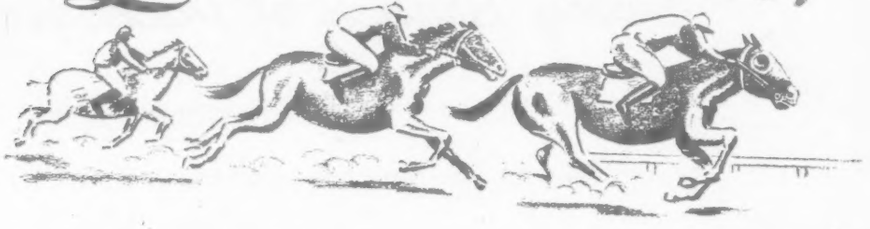
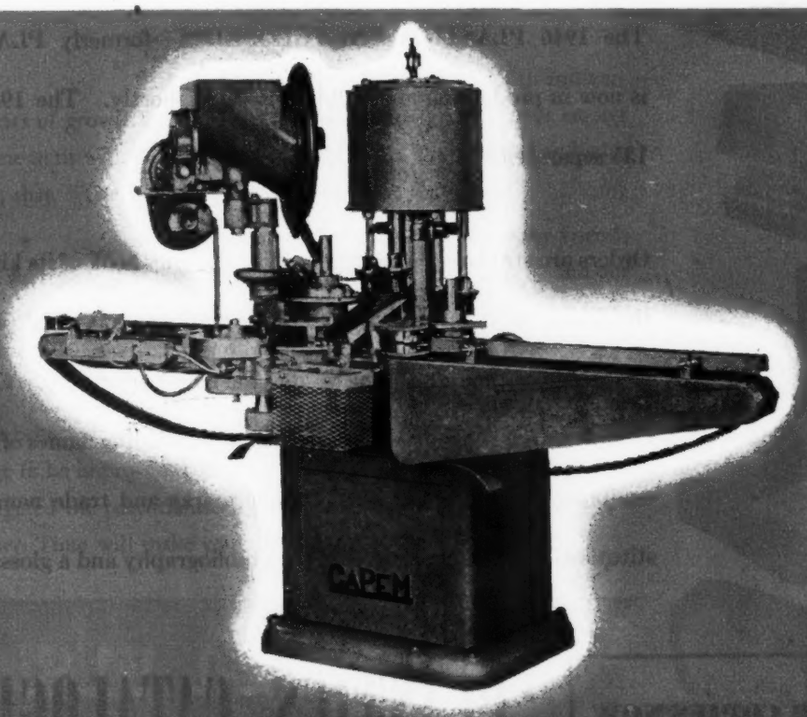


● 9 out of 10 products packed in screw capped containers on grocery or drug store shelves have their caps applied by CAPEM screw capping machines. For CAPEM is recognized by packaging experts as outstanding in efficiency, dependability and economy.

CAPEM handles bottles, jars or jugs of any size or shape. It takes them from conveyor belt, caps them perfectly and returns them to conveyor without intermediate handling. It handles all types of screw-caps — C. T., Amerseal, Duplex, Double Shell, Plastic, etc. — AUTOMATICALLY. Speeds range from 2000 to 7500 per hour. CAPEM saves the labor of from two to five operators.



Write for information on delivery and prices.

CONSOLIDATED PACKAGING MACHINERY CORP.

1400 West Avenue, Buffalo 13, N. Y.

PLASTICS ARE OF VITAL IMPORTANCE IN . . .

Every Branch of Packaging

Plastics are important in all their many forms to all packagers. As molded containers and closures, as sheet fabricated packages and parts, as rubber-like materials for dispensers and seals, as coatings for metal and paper and cloth—plastics are vital materials in packaging.

THERE IS ONLY ONE ANNUAL PLASTICS ENCYCLOPEDIA

---You Need This Book!

The 1946 PLASTICS ENCYCLOPEDIA—formerly PLASTICS CATALOG—is now in production and will be available shortly. The 1946 edition will contain 135 separate chapters, over 1300 pages.

Orders are still being accepted for this, the only book of its kind in the world, giving the latest, most up-to-date information on every type of plastic material, manufacturing method, machinery, design, engineering, etc. Contains the complete directories for every branch of the industry including names of personnel and data on equipment. Also directories of trade marks and trade names, of educational institutions offering plastics courses; a bibliography and a glossary of terms.

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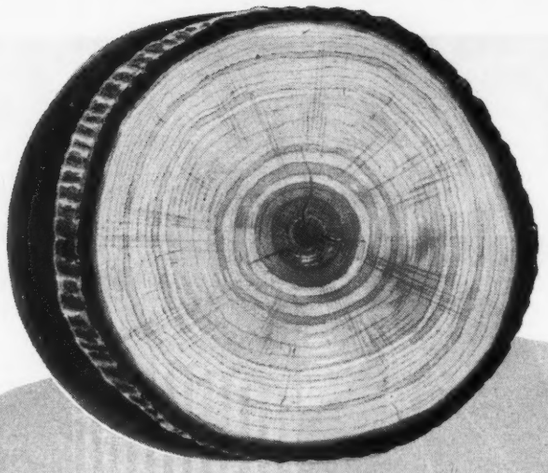


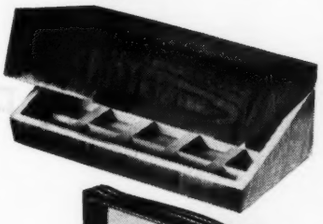
1896 ★ ★ ★ 1946

Half a Century IN THE MAKING

THIS YEAR we are celebrating our 50th anniversary. During our 50 years of growth and progress, we have made many friends among manufacturers who came to us with their packaging problems as "prospects," and who now believe as we do, that, "The Finest Packages Grow on Trees."

• We are grateful, of course, to our many friends for their business. But we realize that our "prospects" have become customers, and our customers have become friends only through years of our unending effort to serve them well—without compromising quality, service and value.

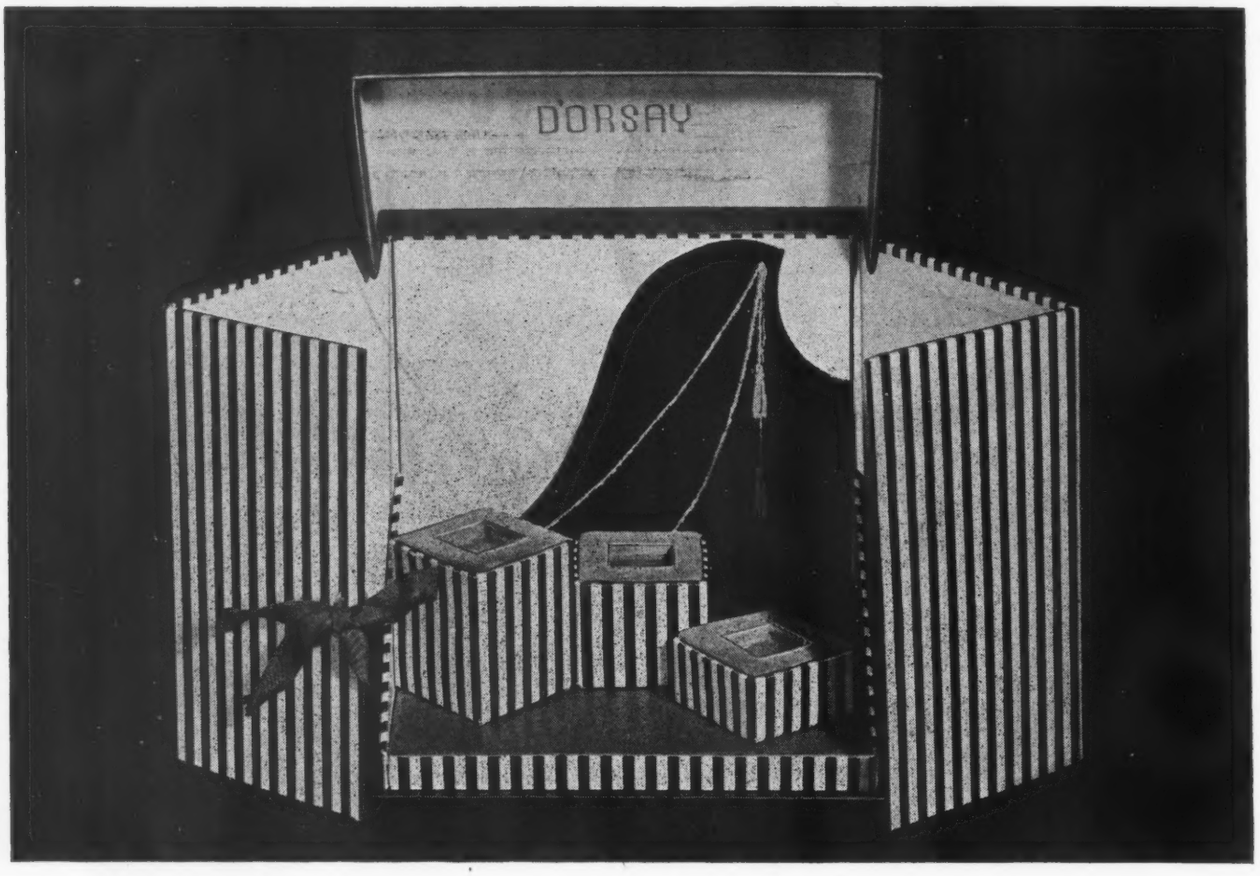
• Like well-grained hardwood, Pilliod quality, service and value have been half a century in the making. If you have a product to be packaged, or a package to be improved, you are a prospect. We are confident that once you have fully investigated the potentialities of wood and Pilliod craftsmanship, you will become a customer. Time will make you a friend.



THE PILLIOD

CABINET COMPANY · SWANTON, OHIO

THE FINEST PACKAGES GROW ON TREES



Fancy SET-UP BOXES

of Paper, Velvets and Other Materials

Originators—Producers of the finest set-up boxes to package quality perfumes, cosmetics and jewelry. We serve manufacturers, department stores, wholesalers and retailers.

OSCAR TRILSCH COMPANY

150-25 18th AVENUE, WHITESTONE, L. I.

DEEP FREEZE COOKED FOODS NOW IN *Sefton* CANS

. . . even Oyster Stew and Shrimp Creole is at its best!

Don't Miss Sefton's DISPLAY AT THE FIRST POST-WAR PACKAGING SHOW
April 2 to 5—Atlantic City

There's no end to the versatility of Sefton cans! They've been used effectively for everything from replacement parts to powder . . . and now they're protecting deep-freeze, cooked foods! Frozen Cooked Specialties, Inc., of New Orleans, uses Sefton cans for their delicious oyster stew with milk, and their luscious shrimp a la Creole! These STRING-OPENING cans are sealed for protection, and open in a jiffy...that's why *you*, too, will want them for *your* deep-freeze, cooked foods!

Sefton FIBRE CAN COMPANY
ST. LOUIS . . . . NEW ORLEANS

DISTRICT OFFICES: • Los Angeles • San Francisco • Denver • Tampa • Chicago • Des Moines • New Orleans • Boston • Detroit • Kansas City • St. Paul Omaha • New York • Cincinnatti • Cleveland • Oklahoma City • Pittsburgh • Memphis • Nashville • Dallas • Houston • Salt Lake City • Seattle

For the first time in years—

you're face to face with selling!

Right now you're facing a fresh opportunity with Dow plastics. Of course, Dow plastics went to war. So did your packages—and they did a good job of protecting the food and hundreds of other supply items that helped bring victory. Naturally you were handicapped in packaging goods for home consumption. But now the finest packaging materials are back and you're dealing with your regular customers again—maybe new customers. Goods are being produced, or soon will be produced, in great variety. You want your products to make the best showing on the market and reach final purchasers in top condition. Dow plastics will insure both. Take a new look at Dow plastics—take a new step toward better packaging. You're face to face with selling again!

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit
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Ethocel Sheeting

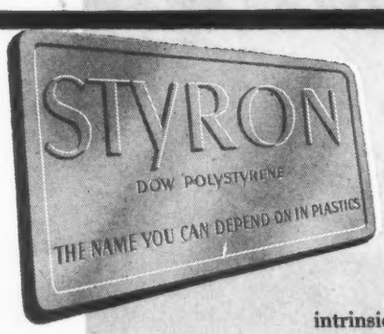
PACKAGING FOR PROFIT

Tough, light and transparent, Ethocel Sheeting makes semi-rigid containers of all sizes and types that lend new attractiveness to a host of products. It can be beaded, printed, folded, scored, drawn, joined by adhesives. And it maintains its characteristics over extended periods of time.

DOW

NEW SARAN—F-122 LATEX *and* F-120 RESIN

Packaging with high resistance to moisture, oils, greases, chemicals and corrosion is attainable with these new twin products of Dow research. Saran Latex produces a quick-drying, high-gloss, abrasion-resistant film. Saran F-120 Resin is more moisture vapor proof than any other solvent-soluble resin.



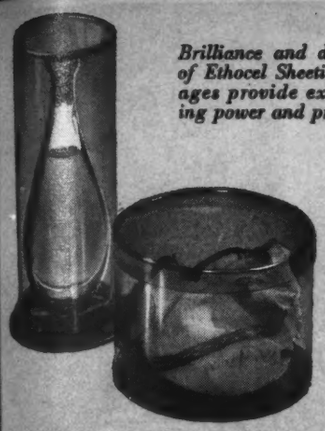
POINT-OF-SALE PROMOTION

Top-flight clarity and brilliance for jewelry boxes, cosmetic containers and many specialty products are achieved by molding with Styron. And its intrinsic appeal dictates broad secondary uses, too. This Dow plastic resists most chemicals, including acids, and thus is also a natural choice for such items as bottles and closures.

saran

PROVED IN PROTECTION

Carburetors, electric motors, precision instruments, fine metal parts and assemblies deserve Saran Film protection—in storage and in transit. Many products demand Saran Film because it "keeps moisture in its place." War tested Saran Film on many jobs—it can do a lot of peacetime jobs for you.



Brilliance and durability of Ethocel Sheeting packages provide extra selling power and protection.

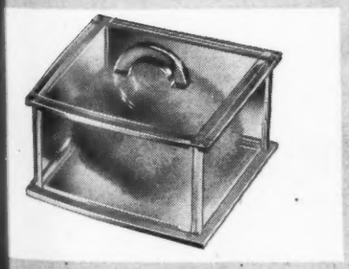
See for yourself!

Why Dow plastics mean better packaging

Visit the Dow Exhibit
BOOTHS 131-134
First Postwar Packaging Exposition
ATLANTIC CITY, APRIL 2-5

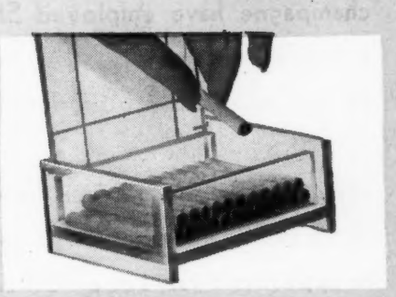
PLASTICS

will help you sell!



Molded Styron containers have sparkling appeal that means sales.

Styron has chemical resistance needed for bottles and closures.



Beautiful Styron containers may be kept for secondary uses.

Saran Film packages protect against rust, corrosion.

Optical range finder, stored in Saran Film for the Canadian Government by the Rowe Packaging Company, Ltd., of Toronto—Official Canadian Army Photo.

DOW

PLASTICS

FOR BETTER PACKAGING:
STYRON • ETHOCEL SHEETING • SARAN FILM
SARAN F-122 LATEX • SARAN F-120 RESIN

SMITH CRAFTED CHICAGO

SEE US AT THE PACKAGING SHOW

April 2nd thru 6th

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Just around the corner to the right of the entrance to the Exposition Hall

We will welcome the opportunity to show what has been, and what can be, done with the SMITHCRAFTED PROCESS in the production of beautiful De Luxe containers.

A wide variety of products, from beer to champagne have employed SMITHCRAFTED containers successfully. (As well as such items as fruit cake, tobacco products, candy, etc.)

They do much to confirm the quality and add to the prestige of any product as well as enhance its appeal and value as a "GIFT."

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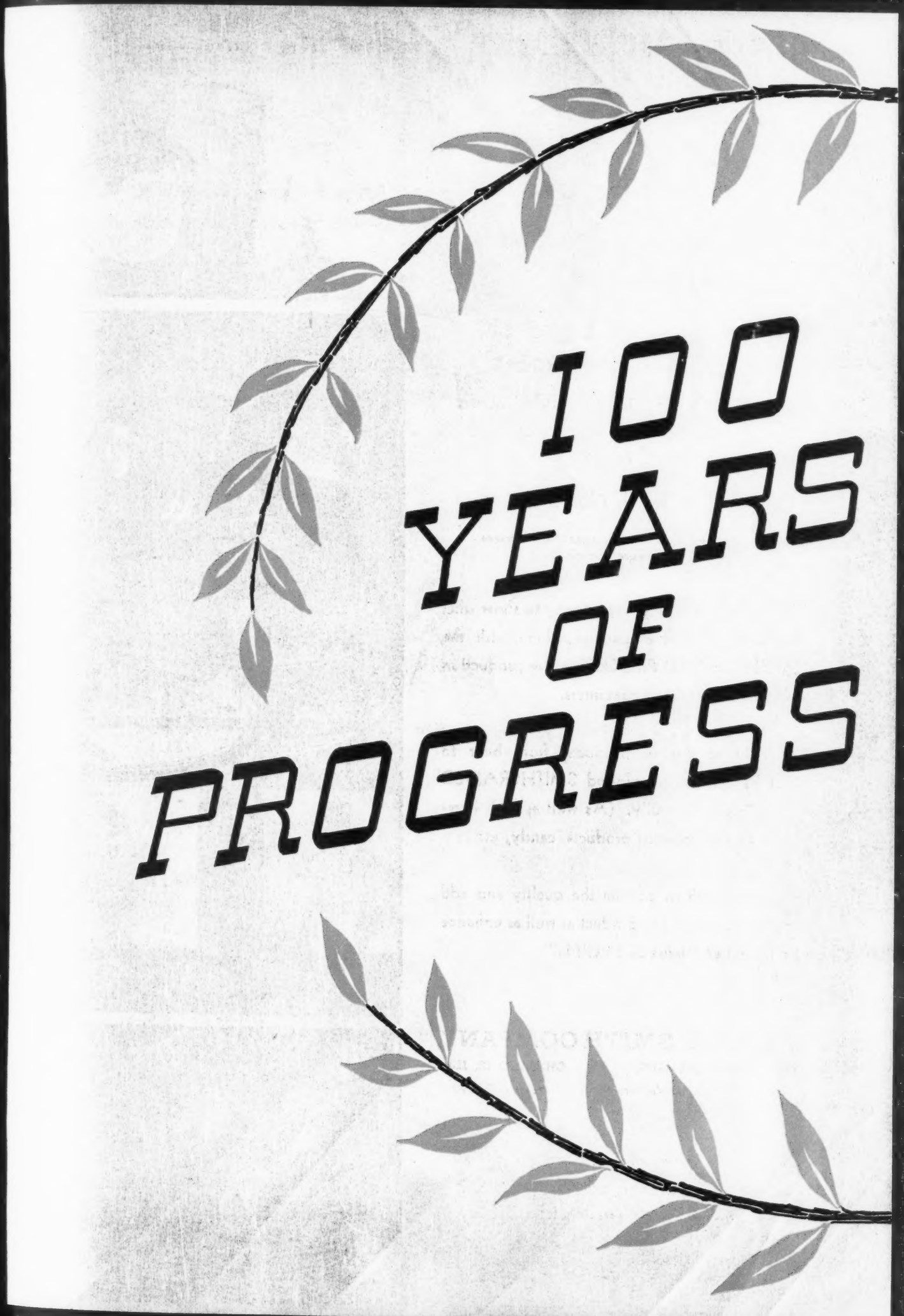
New York Office, 52 Vanderbilt Ave., MUrray Hill 9-8290

(Three members of our organization who will be in attendance at the Packaging Show will be quartered at the Shelburne Hotel in Atlantic City and can be reached there when they are not at our booth at the Exposition.)

Fred A. Krause, Lawrence Ley and A. A. Lubersky.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YEARS
OF
PROGRESS

The Dejonge organization, pioneers of the paper converting field, take pride in becoming a member of that select group—a company established and operated in America for the past one hundred years.

We pledge ourselves, through continued study and research, to produce better papers for the needs of American industry. The uneasy, trying period of war has educated us to the ever-increasing uses of paper. Therefore, it shall be our aim to strive to make Dejonge papers protect and sell in all fields of merchandising.

Antique Brass, a new, unusual Dejonge paper, sampled in our advertisement, is the answer to countless requests for a paper that expresses antiquity, a metallic, yet without the hard feeling of a foil.

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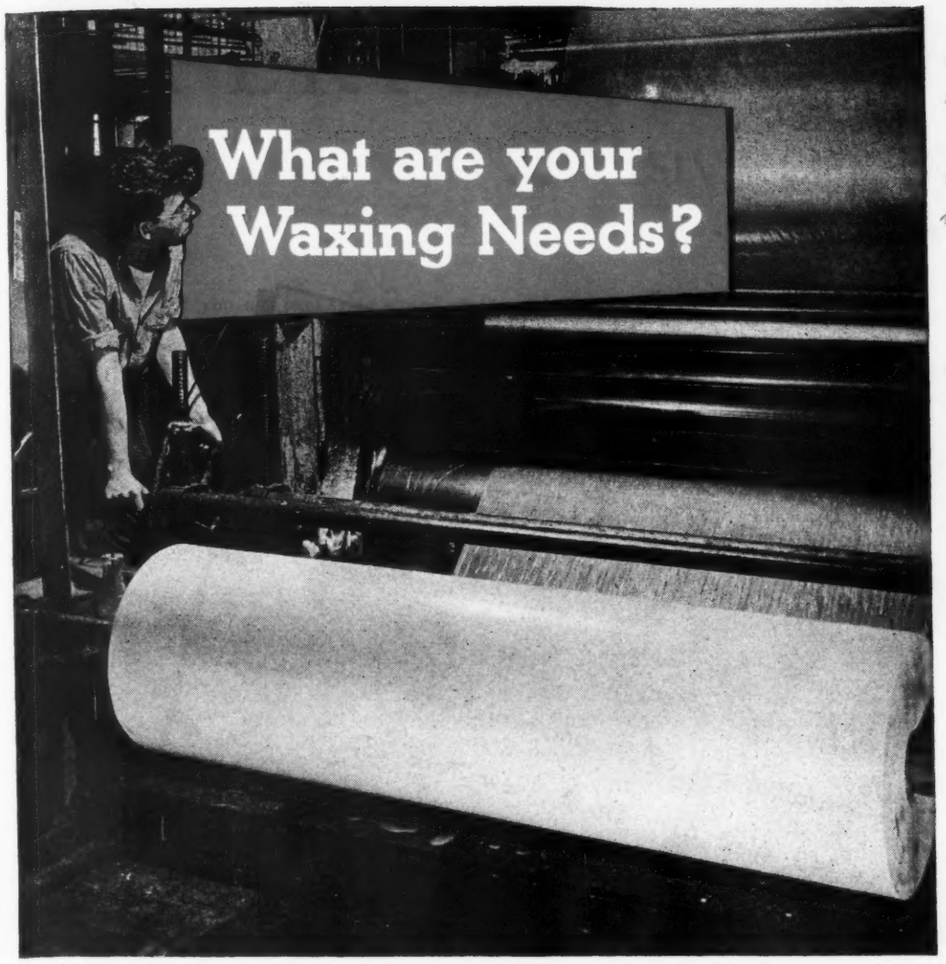

Socony-Vacuum's Complete Line of High-Quality Waxes Meets Every Requirement—

● For wet or dry waxing—for imparting every degree of flexibility, moisture resistance and printing quality . . . there's a high-quality wax specially developed for your needs by Socony-Vacuum.

In addition to paraffin waxes with different melting points, the complete line includes microcrystalline waxes with important advantages for laminating purposes. They are inherently adhesive, form a strong bond between plies, and provide a barrier against moisture-vapor.

These microcrystalline waxes also can be added to paraffin waxes to improve their flexibility, particularly at low temperatures. This is important in locker papers for cold storage and in the packaging of frozen foods.

Your Socony-Vacuum Representative can give you information about all of these waxes, and can assist you in applications with your equipment.

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What's New in Petroleum for PACKAGING!

FROZEN FOODS
S/V Microcrystalline Waxes

Impart flexible moistureproof coatings.

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DEHYDRATED FOODS
S/V Microcrystalline Waxes

When used as coatings, keep contents dry.

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CONTAINER LININGS
S/V Microcrystalline Waxes

Protect interiors of barrels, drums, tank cars.

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BEER CANS
S/V Petrosenes

Give flexible inert linings.

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HEAT-SEALING
Special Waxes

Produce tough, tenacious seals on paper.

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Add strength to waxes used for containers.

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RUST PREVENTIVES
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Keep metals from rusting in storage.

SOCONY-VACUUM OIL CO., INC.
26 Broadway, New York 4, N. Y., and Affiliates: Magnolia Petroleum Company, General Petroleum Corporation of California.

Tune in "Information Please" Monday Evenings, 9:30 E.S.T.—NBC

To our Customers and Friends

REMOVAL NOTICE

We are pleased to announce the removal of our offices and warehouse to 245 West 67th Street, New York 23, N. Y., TRafalgar 4-6640.

Now occupying 55,000 sq. ft. of space, our New York City plant and warehouse are easily accessible to all forms of transportation. We are ready to serve your board and paper needs from our new address with increased efficiency.

JOE SALWEN

JAYPACO

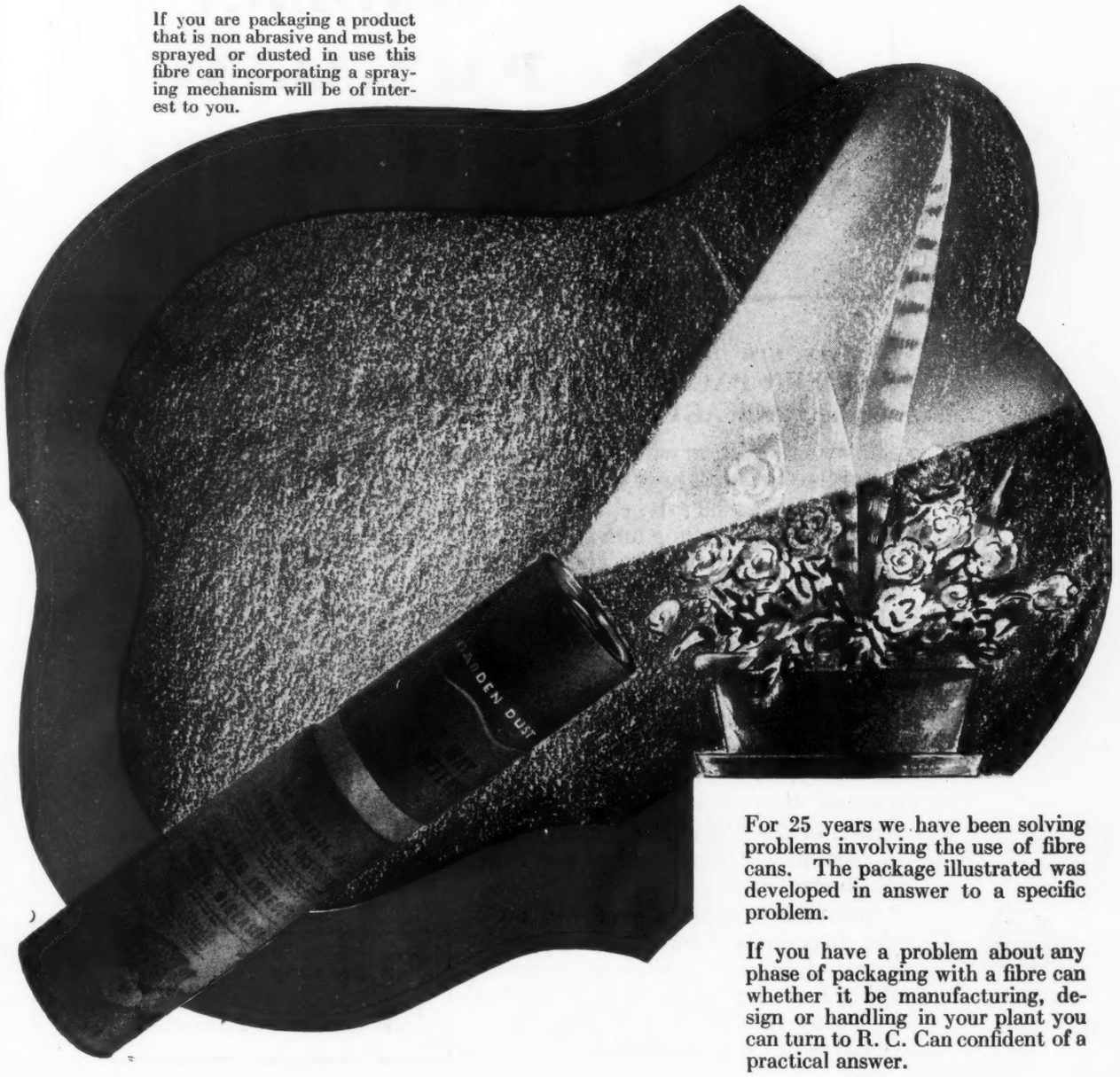
Paper Products Corp.

245 West 67th Street, New York 23, N. Y.

A PERFECT PACKAGE

FOR NON ABRASIVE POWDERS

If you are packaging a product that is non abrasive and must be sprayed or dusted in use this fibre can incorporating a spraying mechanism will be of interest to you.



For 25 years we have been solving problems involving the use of fibre cans. The package illustrated was developed in answer to a specific problem.

If you have a problem about any phase of packaging with a fibre can whether it be manufacturing, design or handling in your plant you can turn to R. C. Can confident of a practical answer.

R.C. CAN COMPANY

Manufacturers of fibre cans, tubes, spools and cores
Head Office: St. Louis, Mo.
Branch Factories: Arlington, Texas; Rittman, Ohio; and Kansas City, Mo.
Sales Offices: Minneapolis, New Orleans, Atlanta, Memphis, Milwaukee, Louisville, New York, Pittsburgh, Denver and Los Angeles.

R.C. CAN CO. THE STAMP OF QUALITY ST. LOUIS, MO.

* Patented R. C. Can Co.

More than 1,000 pages of solid, reliable packaging information

MODERN

1946 PACKAGING ENCYCLOPEDIA

(formerly Packaging Catalog)

Orders are now being taken for copies of the 1946 MODERN PACKAGING ENCYCLOPEDIA formerly known as the PACKAGING CATALOG.

This year's edition will be by far the largest (1032 pages) and the most complete we have ever published.

For the past year, the editors of packaging's only encyclopedia have been busily analyzing and sifting all of the latest information in every branch of packaging. They have looked into vials, peered into aluminum barrels, counted the packages coming off the new high-speed equipment, flexed the new flexible materials. They have consulted with hundreds of experts in every branch of packaging to check and re-check every word going into the 1946 ENCYCLOPEDIA. They have gathered a mountain of information and refined it down to a core of pure fact.

The basic reliability of every word in the MODERN PACKAGING ENCYCLOPEDIA is their responsibility and, as past years have proved, they do not hold the task lightly.

Much of the 1946 ENCYCLOPEDIA will be new—completely new. A portion will be rechecked and rewritten and the entire book will be re-illustrated.

More complete than ever will be the directories—the only compendium of buyers' guides to everything from adhesives to zinc used by many thousands of leading executives in the packaging fields.

$5 per copy

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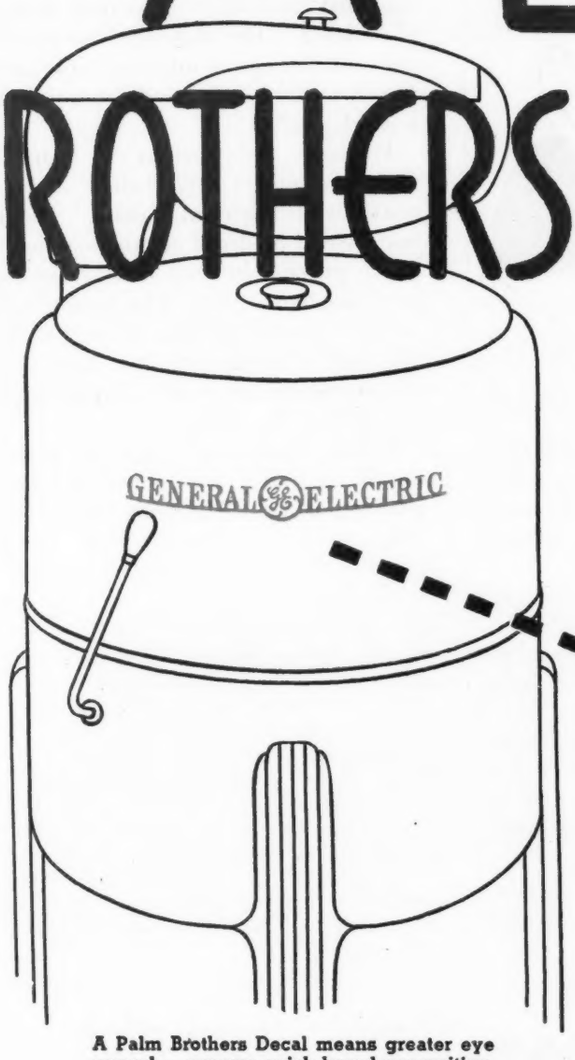
Order Your Copies Now! ↓

PACKAGING CATALOG CORP.

121 EAST 41st STREET NEW YORK CITY 17, N. Y.

PALM BROTHERS *Decals*



EYE-APPEAL
PERMANENCY
ECONOMY

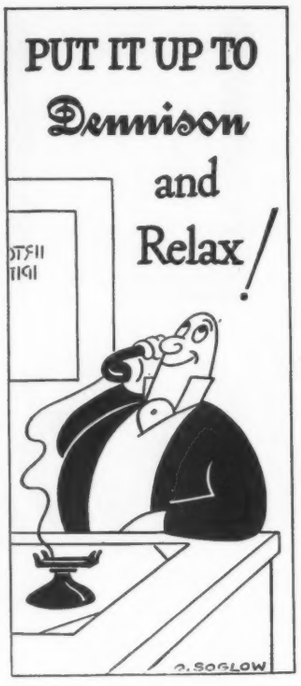
A Palm Brothers Decal means greater eye appeal — assures quick brand recognition.

See for yourself! Samples and individually designed sketches submitted without obligation.

Write today for Bulletin M-100.

THE PALM BROTHERS *Decalcomania Co.*

CINCINNATI . . 12 . . . OHIO . . U.S.A.



THE current trend towards letting the merchandise speak for itself in retail stores gives new importance to point-of-sale tags and labels. In solving this problem, you will save a lot of wear and tear on yourself by putting it up to Dennison first.

Dennison's experience in producing informative labels and talking tags covers practically every type of product manufactured. We can give you valuable tips on making tags and labels that are distinctive, catch the eye, and strike a strong buy-now note.

In addition, Dennison recommendations include practical advice on the best way to affix tags and labels to your product. For example, among the many Dennison methods of attaching tags are our new Snap-Lok and barb fasteners, as well as button-slot or special tongue-slot constructions.

Remember, too, that you do not have to pay a premium price for experience and know-how when you put your problem up to

Dennison

PAPER PRODUCTS THAT PRODUCE RESULTS

FREE—ILLUSTRATED BOOKLET—Our booklet "*If You Could Only Be at Every Point of Sale*" is full of practical information on how to make your product more salable through correctly designed tags and labels. Just fill in and mail coupon and we shall be glad to *rush* a copy to you.

TAGS • LABELS • SEALS • SET-UP BOXES • MARKING SYSTEMS • PAPER SPECIALTIES

Dennison Manufacturing Company, 3227 Ford Ave., Framingham, Mass.

Please send me without obligation, booklet "If You Could Only Be at Every Point of Sale."

Name.....

Firm.....

St. & No.....

City.....Zone.....State.....

Transparency returns . . .

(*Continued from page 154*) counter and sustained consumer interest for the perfume on the dressing table. Acrylic plastic was the selection. The bottle of perfume is fitted into a transparent base which serves to separate the bottle from others in juxtaposition to it on the counter. The cover is a full enclosure completely shielding the bottle. It is held in place by a system of wedging. The edges are two cylindrical forms which also add decorative interest to the package. Edges of the cover are beveled and catch light like the facets of a jewel.

Packages for Parfum by Alphonse—distributed under the names "Whirlwind" and "Bedlam"—make use of two transparent plastics. The bottles are placed in a swirled holder of colored acrylic which has a functional purpose in that it may be used to carry the perfumes like a tray. This holder is then placed in an arched transparent box of acetate, tied with ribbon. The box is set-up type with base and cover. Hand-blown bottles are used with the perfume names silk screened on the glass.

Helena Rubinstein's familiar pink, blue and gold angels decorate a new ribbon-tied transparent acetate package called "Heavenly Glow"—an introductory item containing "Heaven Sent" face powder, lipstick and nail lacquer. Decorative effect is applied by silk screen process.

CREDIT: *Prince Matchabelli package; designed by James P. Sawyer, Morse International; material—E. I. DuPont de Nemours & Co., Inc., Lucite. Lucien Lelong: material—Lumarith, Celanese Plastics Corp., New York. Kay Daumit and Henry Rosenfeld packages; designer, Robert Van Rosen, Donmak Creations; material—DuPont Lucite. Dorothy Gray package: material—Rohm & Haas Plexiglas; designed and produced by Vargish and Co., New York. Parfum by Alphonse: material for swirled holder, DuPont Lucite; acetate materials for box, Celanese Plastics Corp., New York, and Eastman Kodak Co., Rochester; both containers made by the Transparent Container Co., Kingston, N. Y.; bottles, Glass Industries, New York; silk screen by Verne and Gilbert, New York.*

Better base plate . . .

(*Continued from page 152*) project have successfully guided the development of types of plates that would best meet can requirements.

One outstanding characteristic of the new plate was its excellent ductility, consequently, the first cold-reduced tinplate was used in the fabrication of drawn parts where breakage had always been a problem. However, samples of the first cold-reduced steel with a low metalloid content were immediately included in corrosion tests. It was found that the corrosion resistance was far superior to that of most hot-rolled plate. This performance confirmed all the predictions that had been made, based on the results obtained in previous studies with hot-rolled plate of low metalloid content.

In time, the corrosion-resistant cold-reduced tin-

FOR YOUR CREAMS, PASTES, POWDERS, LIQUIDS

INCREASE EYE-APPEAL, PROTECT YOUR PRODUCT, ADD CONVENIENCE

Whether your product is a newcomer or a well-established one, you can increase its eye-appeal and its convenience and at the same time keep it free from contamination in attractive, sanitary, self-dispensing WIRZ Collapsible Tubes. Designed with walls of uniform thickness, correct structure and orifice, WIRZ Tubes take decorative inks and lacquers beautifully. Self-dispensing, convenient, they prevent waste, protect your product and your customer good-will. Let us help you plan now for this extra appeal, protection and convenience.

A. H. WIRZ, INC.

Established 1836

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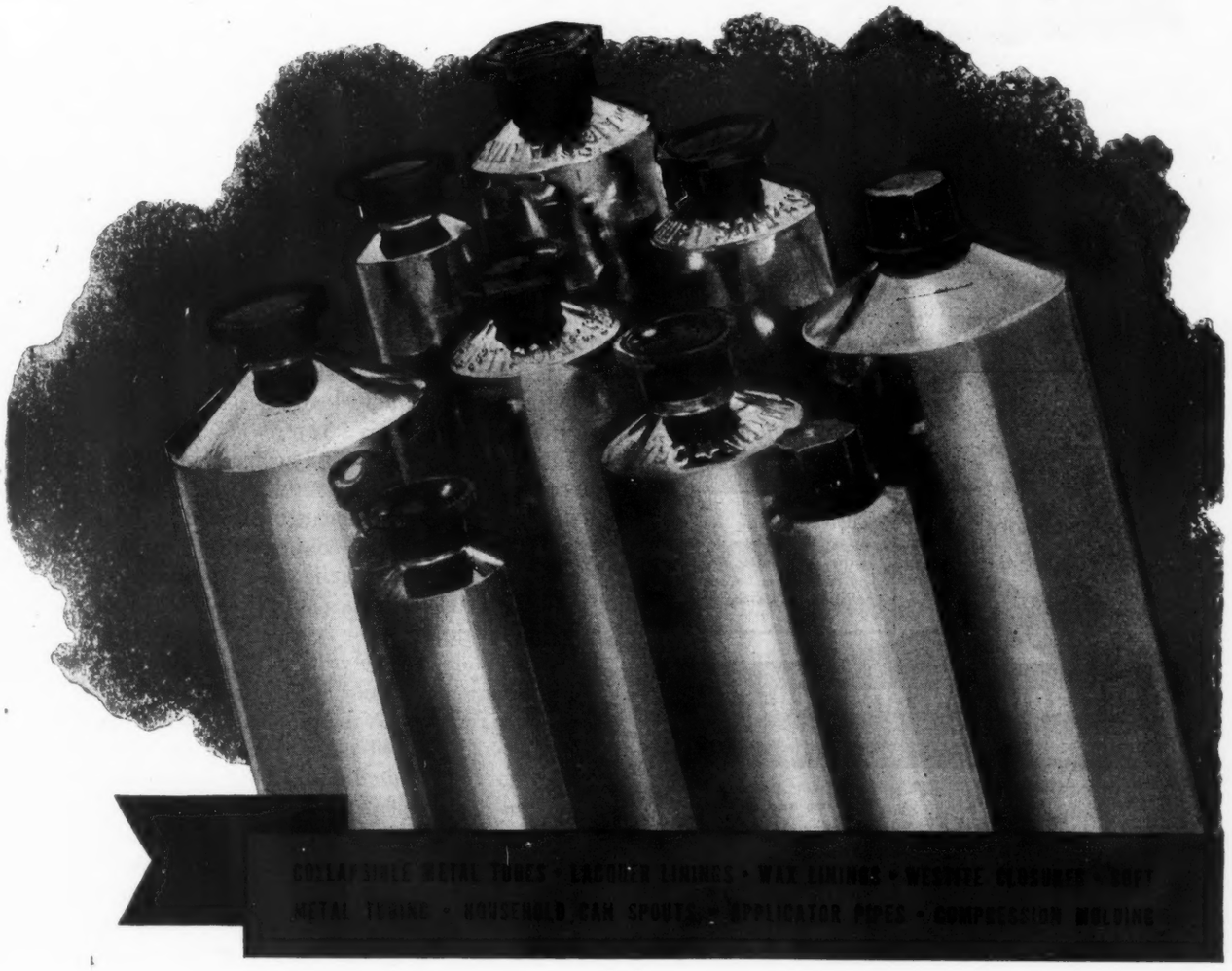

COLLAPSIBLE METAL TUBES • ENAMELED LININGS • WAX LININGS • PLASTIC CLOSURES • SOFT METAL TUBING • HOUSEHOLD CAN SPOUTS • APPLICATOR PIPES • COMPRESSION MOLDING

PROTECTION You Can Count On

LUSTEROID *Vials and Tubes*
Carry Your Products to Market Safely

You don't have to worry about your merchandise when it is packaged in LUSTEROID vials and tubes.

The jewel-like appearance of these modern plastic containers belies their inherent strength. Though crystal-clear and seemingly delicate, LUSTEROID is strong, rigid, unbreakable—built to stand up in transit, on the shelf and in use.

This is but one of the reasons why so many packaging authorities are switching to economical LUSTEROID vials and tubes. It will pay you to get the complete story today.

LUSTEROID vials and tubes range in size from ¼ to 1¼ inches in diameter and lengths up to 6 inches. Cork, slip-on or screw-cap closures.

LUSTEROID CONTAINER CO., Inc.
Formerly Lusteroid Division of Sillcocks-Miller Company

Office and Factory
10 W. PARKER AVENUE, MAPLEWOOD, N. J.
MAILING ADDRESS: SOUTH ORANGE, N. J.

plate became known as Type L because it was "low" in metalloid content and also "low" in its content of such residual heavy metals as copper, nickel, chromium, etc. With the introduction of the cold process the steel companies found that it was possible to meet readily our specifications for the Type L plate for cans for the most corrosive products. The better corrosion resistance and other improved qualities were so outstanding that within a very few years all the major tinplate suppliers had installed cold-reduction mills. Within a few more years the old hot mills were obsolete.

The temper classification

While cold-reduced steel as first produced gave much better corrosion resistance than the old hot-rolled tinplate, not all tinplate troubles immediately vanished. The first major problem was the softness of the cold-reduced plate, which resulted in lower buckling and paneling resistance than had been obtained with hot-rolled plate. During the steam processing of canned foods considerable pressure develops within the cans. When ends were made of cold-reduced tinplate the cans had to be handled with extraordinary care during processing and cooling to prevent serious straining or buckling of the can ends. Since this problem was more acute with the larger sizes, the initial use of the new plate in ends was generally restricted to cans smaller then 307 diameter. In the case of No. 10 cans packed with fruit it was necessary to increase the gauge of the end stock by 10 lbs. per base box to prevent buckling, even though most fruit products develop only a low pressure during processing.

The problem was, therefore, to increase the buckling and paneling resistance of the plate without affecting its corrosion-resistant properties. The answer was found in the fact that cold working of steel increases its stiffness or temper. Ultimately the steel companies installed large tandem temper-rolling units to cold work the surface of the plate and produce the desired stiffness.

Extensive research studies with cold-reduced tinplate showed that steel with a very low metalloid content was not required to provide suitable service life for a large volume of mildly corrosive and non-corrosive food products. The results of these studies pointed the way to the attainment of desired stiffness by controlling the metalloid content of the steel. Although some temper rolling of the steel was still necessary, the mills were able to reduce greatly the cost of the temper-rolling operation. The types of tinplate in which tempers are obtained largely through control of the metalloid content are now known as MC plates.

Canco research on the problem of increasing the stiffness of cold-reduced plate involved many painstaking laboratory determinations of the buckling and paneling resistance of the plate as well as field tests in commercial canneries. Based on the results of these studies over a five-year period, the now well-known "Temper Classification" was set up. This system specified in metallurgical units the stiffness of the plate required for each part of every can. This made it possible to fit cans to

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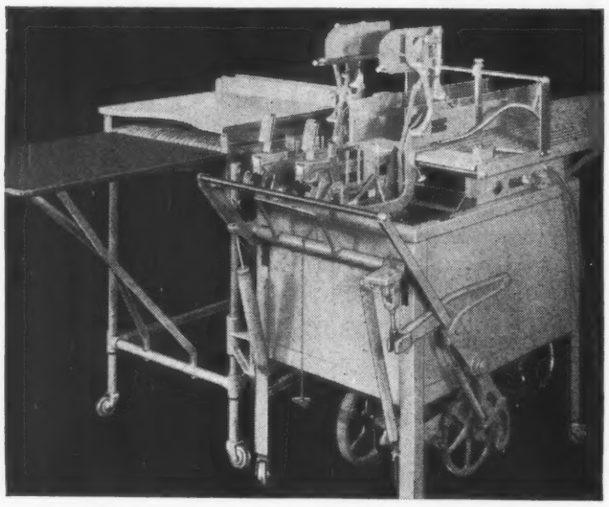

Wraps many sizes, cuts its own wrappers from rolls. Quickly adjustable without tools. Standard Model heat seals. Can also be furnished to glue seal. Mounted on casters, the Miller Model MPS can be rolled to the job. Plugs into any wall outlet for power.

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the intended use both from the standpoint of the corrosion potentialities of the product to be packed and from the probable physical abuse which the can had to withstand.

The temper classification now includes six tempers, the stiffness increasing from Temper 1 to Temper 6, or T1 to T6. Tinplates of T1 and T2 characteristics are used in deeply drawn containers such as oval oil can tops and fish can bodies. Plates of T3 and T4 characteristics are commonly used in the ends and bodies of processed food cans. The T5 plate is used where higher resistance to buckling is required, as in the ends for large diameter cans for items like peas, corn, and spinach; or where high resistance to paneling is required, as in the bodies of vacuum-packed cans.

The introduction of the temper classification was another milestone in the development of tinplate. Before this time the mills had been requested to furnish plate which would perform satisfactorily for each particular application. Each mill had its own opinion of the characteristics of the plate which would best do the job. With the introduction of the temper classification the mills were required to furnish plate with specified characteristics. This change was advantageous to the mills and also particularly helpful to our factories. For the first time we were assured of receiving tinplate of uniform physical characteristics from different mills.

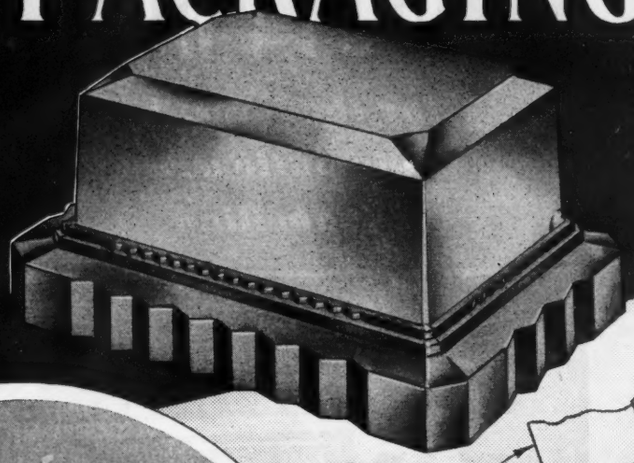
Further improvement of corrosion resistance

The improvement of tinplate that was achieved through the pioneer studies of the effect of chemical composition of the base steel on corrosion resistance was so great that it was considered desirable to investigate each step in the manufacture of tinplate with the hope of obtaining further increased corrosion resistance.

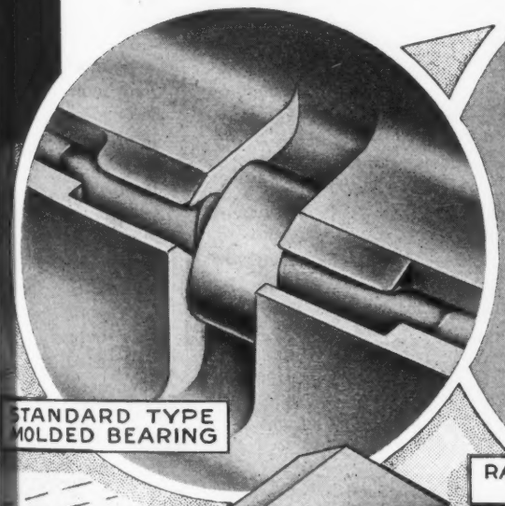
One field of study was the effect of the residual heavy metals in the steel, such as copper, nickel, chromium, etc. These elements are not desired in the steel for tinplate, and so are usually called "tramp" elements. In general, they are introduced into the steel by means of the scrap that is added to pig iron in the open-hearth furnace to make steel. In normal steel-making practice about 40% of the charge is scrap. The source of the scrap determines the amount of "tramp" elements that it will contain. If the scrap bears appreciable quantities of alloy steels, the steel that is made from it will also contain the alloy elements because many of them are not removed in the refining operation that is accomplished in the open-hearth furnace.

Controlled packs of various food products in cans fabricated from a large number of experimental plates containing varying quantities of the heavy metals were made to determine what percentage of such elements as copper, nickel, chromium and molybdenum could be tolerated without reducing the corrosion resistance of the steel. From these studies and other information that became available during the years of work on corrosion resistance, the effect of each of these elements on the corrosion resistance of the tinplate became known. This knowledge was used in defining the maximum

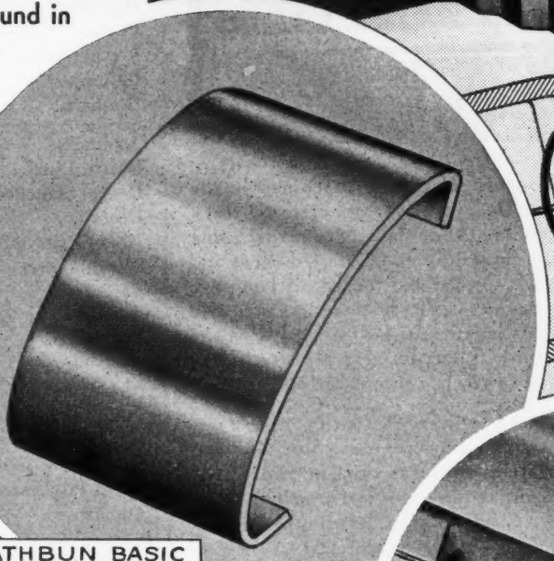
SUCCESSFUL PACKAGING *hinges*



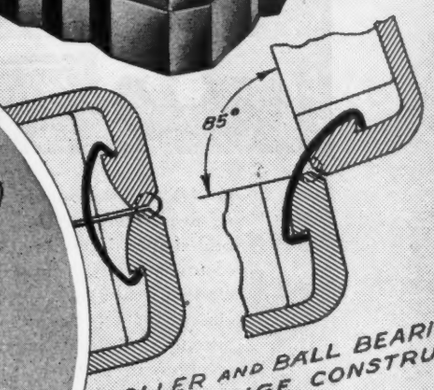
. . . on precision molded plastics which embody not only true craftsmanship in design and color . . . but the superior performance found in Rathbun spring-hinge construction.



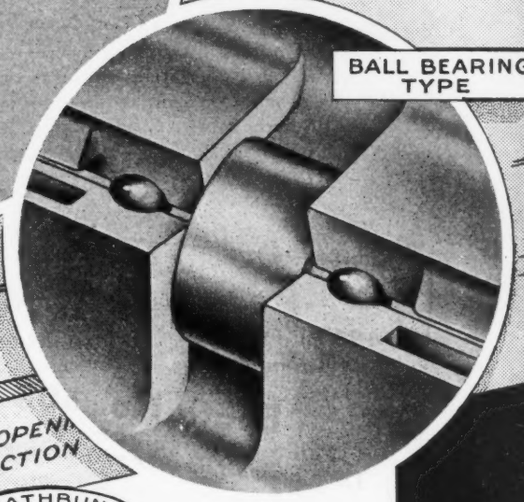
STANDARD TYPE MOLDED BEARING



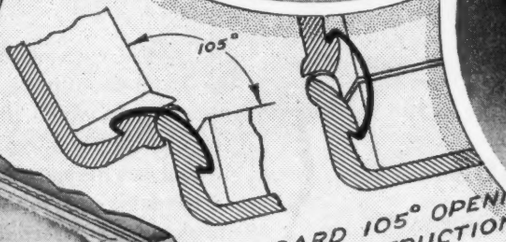
RATHBUN BASIC SPRING



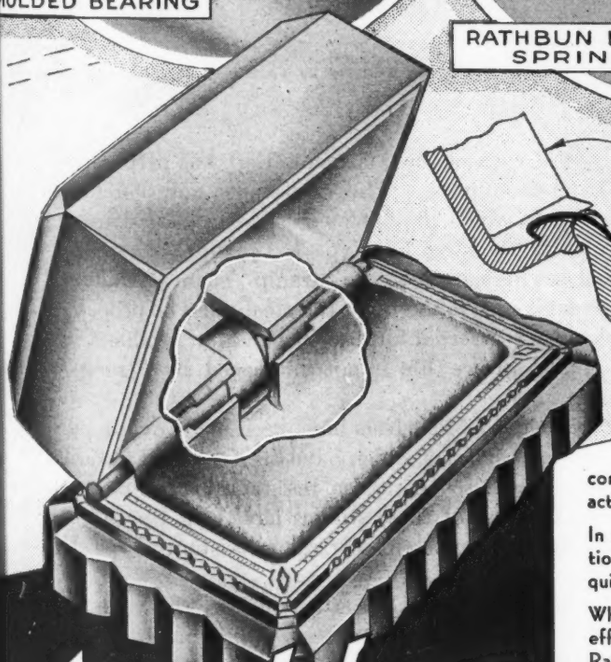
ROLLER AND BALL BEARING HINGE CONSTRUCT



BALL BEARING TYPE



STANDARD 105° OPEN HINGE CONSTRUCTION



RATHBUN MOLDING CORP PAT. 1833302 SPRING-HINGE

This unique feature, integral with all Rathbun hinged plastic container construction, provides positive opening and closing "jack knife" action and is available in 85°, 105° and 180° cover opening.

In addition to this standard plastic-molded hinge bearing, two adaptations, the Roller Bearing and the Ball Bearing types, also afford smooth, quiet hinge movement.

Where beautiful streamlined packaging is required along with extreme efficiency and trouble-free economy, consider the design features of Rathbun hinged custom-molded products.

Rathbun MOLDING CORPORATION

SALAMANCA, NEW YORK

See "OLIVER"
for the latest in
automatic wrapping
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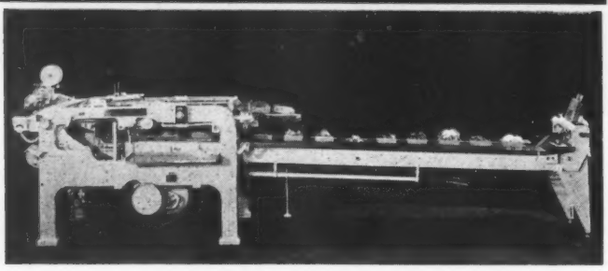

● "Oliver" Automatic Wrapping Machines—made in five different size ranges—wrap cartons, trays, odd-shaped items on U-boards or flat cards, using almost any type heat-sealing material. U-boards and cards are automatically fed and folded. A complete change for package size can be made in less than two minutes. Wrapper length can be adjusted with the machine in motion. Photo-electric registration of printed wrappers. *A girl can operate the "Oliver."*

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"OLIVER"
AUTOMATIC VARIETY WRAPPING MACHINE

TABLE I. SHELF LIFE OF CANNED FRUITS, AND VEGETABLES
Central United States (70° F.)

Product	*Months*	
	*1931**	*1944†*
Apples and Applesauce	12–15	36
Apricots	18–24	36
Blackberries	9	12 or more
Blueberries	12	12 or more
Cherries, R.S.P.	9	12 or more
Cherries, Sweet	12	12 or more
Cherries, Black	9	12 or more
Cranberry Sauce	12	12 or more
Fruit Salad	9–12	36
Grapes	9	12 or more
Grapefruit	9	36
Peaches	18–24	36
Pears	24	36
Pineapple	12–15	36
Plums	9	12 or more
Rhubarb	6	12 or more
Asparagus	24	36 or more
Beans, Lima	24 or more	96 or more
Beans, Stringless	24	36 or more
Beets	15	48 or more
Brussel Sprouts, Cabbage, and Cauliflower	18	48 or more
Carrots	24 or more	36 or more
Corn	36–60	96 or more
Hominy	36–60	96 or more
Peas	36–60	96 or more
Pickles	6	12 or more
Pumpkin and Squash	18	48 or more
Sauerkraut	9	12 or more
Spinach	18	36 or more
Sweet Potatoes	24	48 or more
Tomatoes	15	48 or more

* *Fundamentals of Canning and Canned Fruits and Vegetables*, Bulletin No. 5, Series X, The Quartermaster Corps Subsistence School, 1931.
† *Fundamentals of Canning*, Text No. 23 Tentative, Quartermaster Subsistence School, 1944.

amount of each of these elements that was permissible in Type L tinplate. The steel mills now carefully select scrap which they believe is low in alloy content for making the steel for Type L tinplate. However, if analyses indicate that the "tramp" element content of the final steel is too high, the steel must be properly marked and diverted for use in cans for products in which the service life is not influenced by "tramp" elements.

A great many other tests have been made over a period of years, most of which have been directed toward obtaining increased corrosion resistance. The contributions from all of these studies have now been integrated into the present corrosion-resistant Type L plate.

The advantage which has accrued to the canning industry from this long-time research program is evaluated in the texts prepared by the U. S. Army Subsistence Schools in 1931 and 1944. The improved shelf life of cans for various products is indicated by figures on expected performance included in texts written in these two years. These data are reproduced in Table I

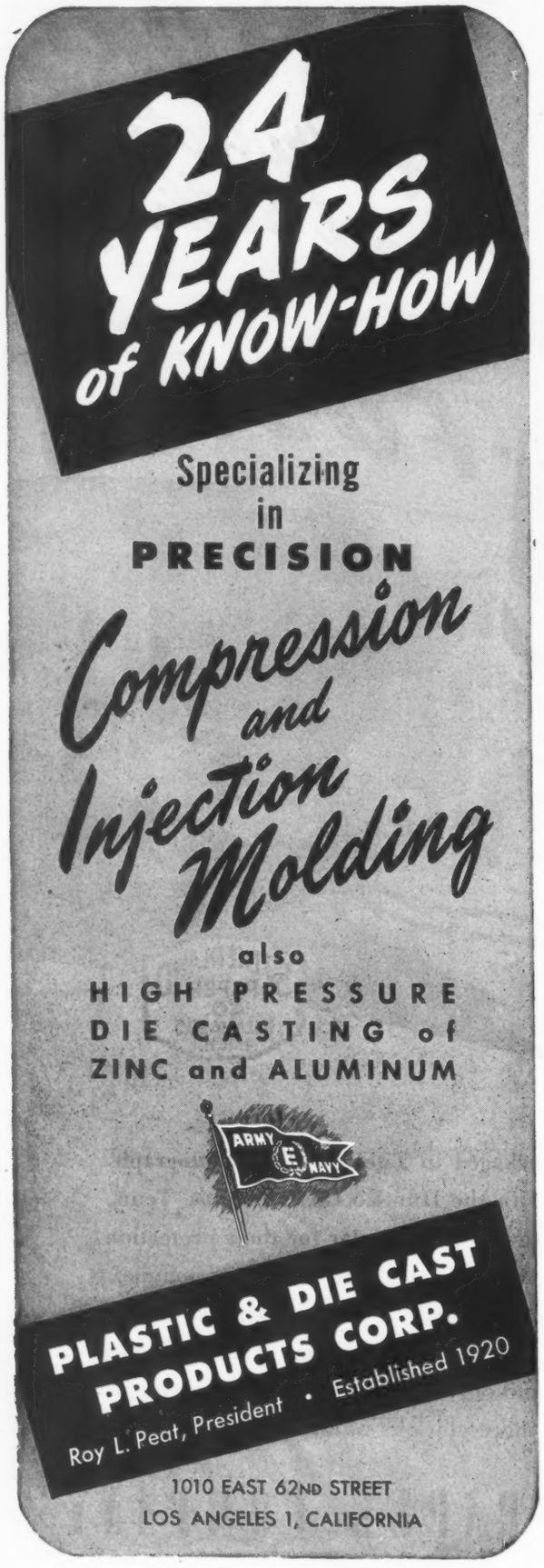
NET WEIGHT 3 POUNDS
Cream-white
Purely Vegetable
SHORTENING
FOR CAKES, PASTRY, PIES, BISCUITS AND FRYING
MADE FROM HYDROGENATED VEGETABLE OIL
MANUFACTURED BY THE HUMKO CO. MEMPHIS, TENN.
SUTHERLAND PAPER CO. KALAMAZOO MICH.

TITELOKS *for Protecting and Selling* GOOD FOODS

MANY GREAT PRODUCTS are packaged in Titeloks. The photograph above shows the modern filling process in the HumKo Co., Memphis, Tenn. plant. These light weight cans have proven very popular for their protection and merchandising advantages. The inside is specially treated to maintain the freshness of shortening, ice cream, sea foods, and other semi-solid products. Though war restrictions now keep us from making further commitments, Sutherland packaging artists and engineers are ready to help you plan exciting new Titelok containers for those glorious unrationed times to come.

SUTHERLAND PAPER COMPANY

KALAMAZOO 13D, MICHIGAN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It is possible that the increased shelf-life that has been obtained is greater than illustrated by the table, since the 1931 values were based on the heavier prewar coatings, while the 1944 data were based on the shelf life of the lighter coated substitute cans then specified by WPB Order M81 and Quartermaster Corps Tentative Specification C.Q.D. 350A.

Sorptive paperboard . . .

(*Continued from page 203*) qualifying moisture-vapor-barrier materials for Method II packaging at the Forest Products Laboratory has shown the difficulty of making satisfactory Method II floating-barrier packs. On the other hand, satisfactory Method II carton-barrier-carton packs were readily made with a number of the available moisture-vapor-barrier materials. If the presence of the paperboard in these carton-barrier-carton packs can be assumed to perform as a sorptive material after the desiccant has been spent, it can be predicted that the carton-barrier-carton Method II pack will outlast the floating pack because corrosion control is attained.

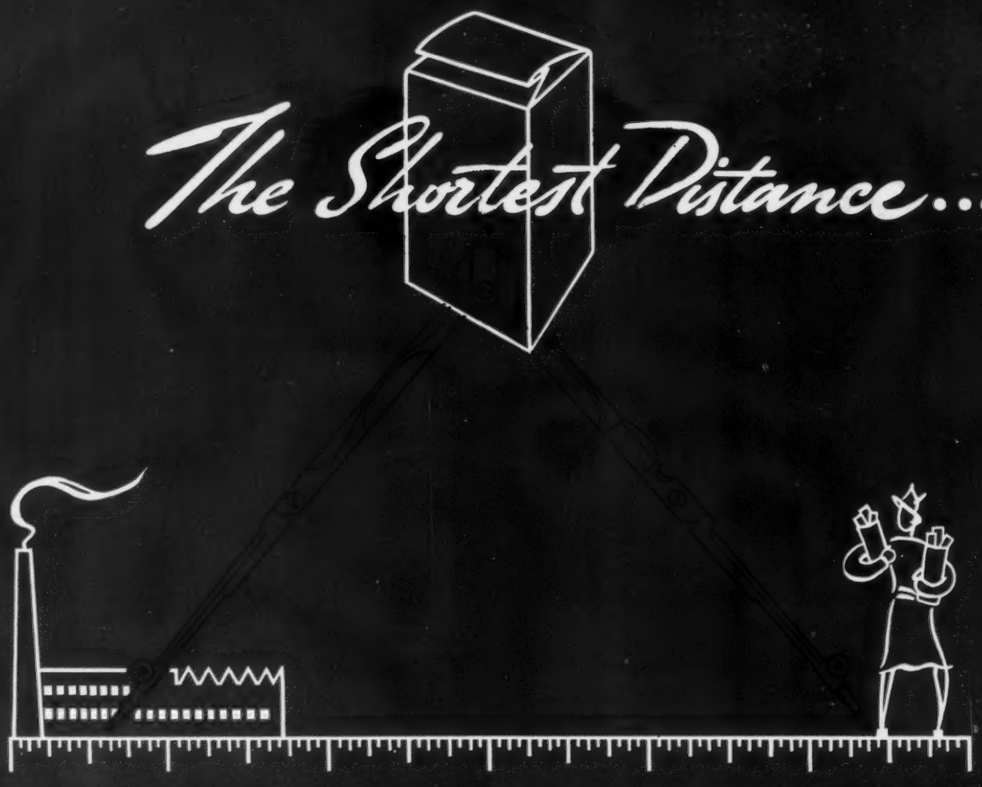
It can also be predicted that the Method I-a-2 pack which incorporates a sorptive material within the water barrier in the form of paperboard, chipboard, fibreboard or hygroscopic cushioning materials, will give better protection for a much longer period of time than the Method I-a-1 conforming pack. Military items or parts which are being stored will require inspection sometime during the future to determine whether deterioration due to corrosion is developing. When these inspections are made, it is anticipated that the Method I-a-2 pack will have shown better performance.

Military supplies are still being procured. It is recommended that whenever Method I-a protective packaging is required the I-a-2 pack be specified in preference to Method I-a-1.

Implications on commercial packaging

The protective packaging of military supplies and equipment has shown the decided necessity for good cleaning and preservation. Protective packaging will find its place in postwar commercial packaging procedures and the importance of proper cleaning and the use of good corrosion-preventive compounds cannot be overstressed. Where extended shelf life is indicated or where packaging for export is being undertaken, the findings from field and laboratory experience with military packaging are applicable. As previously stated, the presence of sorptive materials in all classifications of protective-packaging methods is believed beneficial. Therefore, whenever a water or moisture-vapor barrier is used it is desirable to place it around the unit container so that the paperboard sorptive material is inside the package where it can do the most

The Shortest Distance...



The shortest distance between manufacturer and consumer is the RIGHT package

Planning a successful merchandising program for any product calls for "an infinite capacity for details". And one of the most important details of such a program is the proper package for the product.

An attractive package halts the shopper's casual, straying glance. That much accomplished, it must now close the gap of hesitancy which ordinarily exists between prospective buyer and product manufacturer. It must accomplish this in one fleeting moment of contact.

A good trick? We agree—but it can be done. It takes the proper package—the RIGHT package—to do it. Whatever your individual and special requirements may be, Union Paper Packages can help you find the shortest route to your objective—consumer acceptance of your product.

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MORE AND MORE FOOD PROCESSORS SAY...

It's STOKES & SMITH for ME!

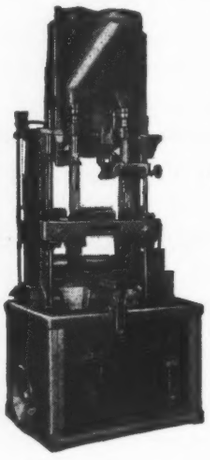
During nearly fifty years in business, the policy of Stokes and Smith has been constant improvement of its filling, packaging, and wrapping machines, for better and more profitable production.

This forward looking policy has naturally resulted in the acceptance of our machines by a steadily increasing circle of nationally known users.

In common with most manufacturers, we find it impossible to turn out machines fast enough . . . and we're looking hopefully toward the time when there will be enough S & S machines to meet the demand.

Today more and more customers tell us . . . "I'm *glad* to wait for a Stokes & Smith."

THE TRANSWRAP PACKAGING MACHINE . . . forms, fills and seals the package, taking the printed or unprinted web from the roll—at speeds of from 50 to 100 packages per minute, depending on size of package, kind of web and nature of material. Ideal for packaging coffee (steel cut, Silex ground or pulverized), candy, popcorn, nuts, crackers, powders, granular materials and miscellaneous articles. Write for illustrated folder.



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good. The Method I-a-1, or conforming, wrapping technique cannot be recommended as having postwar application.

Conclusions

The need for protective packaging of military supplies and equipment has resulted in the development of many new packaging materials and new packaging techniques. These new materials and methods as applied to commercial postwar packaging require efficient use in order to keep costs down. Therefore postwar commercial protective-packaging procedures should be designed to make use of the characteristics of these packaging materials in every way possible to provide the desired corrosion control. This control can be obtained by preventing condensation through the use of paperboard sorptive materials as well as by maintaining low relative humidities.

The National Canners Show

Atlantic City got a foretaste of the 1946 Packaging Exposition when an estimate of 15,000 canners, brokers, suppliers and members of allied trades descended on the Boardwalk Feb. 3–8 for the resumption of the prewar National Canners Show. Some of the packaging equipment and supplies which will be shown at the April Exposition on the same floor was on view at this exhibit—the largest ever held by the canners.

Concurrent with the show were the annual meetings of the National Canners Assn., the Canning and Machinery Supplies Assn., the National Food Brokers Assn. and the National Dehydrators Assn. Featured speakers included the Earl of Halifax, British Ambassador to the United States, and Clinton P. Anderson, the Secretary of Agriculture. There were numerous committee and technical reports, although few dealing specifically with packaging.

E. B. Cosgrove, chairman of the Canners' Labeling Committee, announced the approval by the Association and by all major distributor associations of a standardized informative labeling program. This has been worked out in great detail, covering practically every item packed. Data sheets distributed to canners, in addition to listing the mandatory label statements for each item, provide a list of recommended descriptive terms and optional statements and set up technical standards and terms for such points as maturity ("very young," "young," "nearly mature"), consistency and seasoning. In his report, Mr. Cosgrove declared: "The tide of labeling has turned. . . Of late, constructive thinking has largely replaced emotion. . . Controversey (has been) laid aside. Our time (has been) freed for the orderly and constructive development of a sound labeling program of benefit to the consumer and thereby of benefit to ourselves."

At the National Dehydrators Assn. meeting, Donald K. Tressler, consultant, declared that the great need is

Now in Attractive New Dress

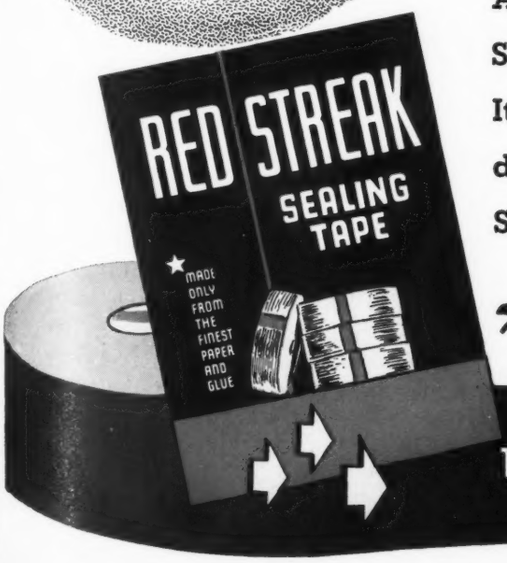
RED STREAK

SEALING TAPE

Brown-Bridge Mills

(those Gumming Specialists)

are Package Conscious too.



A beautiful new package for the old reliable Red Streak Sealing Tape—but only the package has been changed! It's the same full weight, full strength Kraft with abundant high-test animal glue. Next time, order Red Streak Sealing Tape.

***The* BROWN-BRIDGE MILLS, Inc., Troy, Ohio**

THE SEALING TAPE IN THE CANDY STRIPED PACKAGE

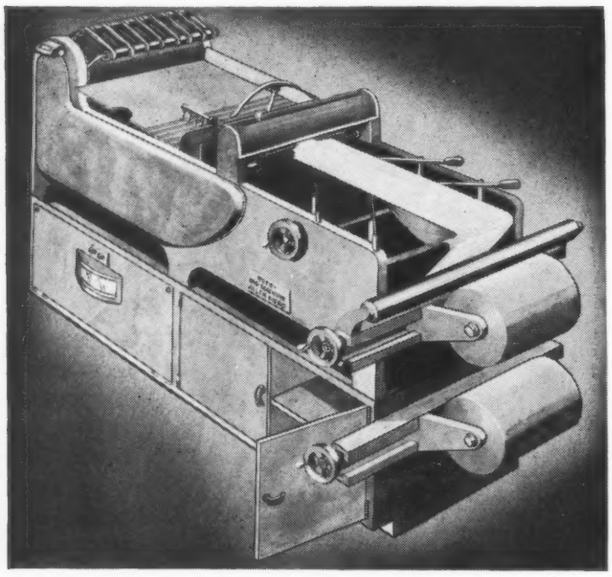
ROTO BAG MACHINE

handles

CELLOPHANE • DIAPHANE • MARALUX

or any heat-seal coated paper

FLAT--SQUARE BAGS



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DESIGNERS AND BUILDERS OF SPECIAL EQUIPMENT

for a simple package that will hold a dehydrated product at less than 1% moisture indefinitely, despite periodic opening for use. Another speaker was Clarence Birdseye, who warned that if there is to be a consumer market for dehydrated foods the foods must be packaged conveniently and attractively and must be presented without any apologies—as good as garden-fresh. Mr. Birdseye stated his opinion that the successful dehydrator must have a whole line of products, designed to take at least 80% of the housewife's dollar, in order that distribution costs may be kept in line. Graham Adams was re-elected president of the dehydrators.

The National Canners Assn. re-elected Fred A. Stare, of Columbus Foods Corp., as president, and named Emil Rutz, of Schuckl & Co., Inc., first vice-president, and Alfred W. Eames, of California Packing Corp., to continue as second vice-president.

R. M. Roberts, of American Can Co., was elected president of the Canning Machinery & Supplies Assn., succeeding William de Back.

Annual meeting of TAPPI

The 1946 Annual Meeting of the Technical Assn. of the Pulp & Paper Industry, first to be held in two years, presented a very full program at the Hotel Commodore, New York, Feb. 25–28, with much of packaging interest.

Following the opening General Session on Monday, presided over by Vance P. Edwardes, president, there were numerous concurrent technical sessions in the three days following dealing with such subjects as coatings, graphic arts, plastics, testing methods in general and packaging materials testing in particular. The meeting concluded with the annual luncheon on Thursday and the presentation of the TAPPI gold medal to William G. MacNaughton, engineer of the News Print Service Bureau, for his outstanding contribution to the technical advancement of the entire industry.

Two of the TAPPI papers of greatest interest to packagers are published in this issue of MODERN PACKAGING ("Saran Coating Latex," p. 194, and "Sorptive Paperboard," p. 200). Others included "Resins in the Treatment of Paper," by William Abramowitz, J. Y. Kao, A. N. Stull, Fred Speyer and Herbert Wells, all of the American Resinous Chemicals Co., and "Functional Papers," by R. H. Mosher and R. S. Bracewell, of the Marvellum Co.

The special session on Packaging Materials Testing, on Thursday morning, included, besides the "Sorptive Paperboard" paper, a report on "An Isostatic Method for Determining the Gas Permeability of Sheet Materials," by D. W. Davis, of the Marathon Corp.; a discussion of testing methods, and "Laminating Adhesives and Their Applications," by Arthur Biddle, of the Reynolds Metal Co.

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MICROCRYSTALLINE WAXES are HIGH in MOISTURE VAPOR RESISTANCE!

Yes, a microscopic view of Bareco Microcrystalline Waxes shows immediately their *dense, close-knit structures* . . . the key to their success in many packaging problems.

BE SQUARE WAX . . . This hard, non-tacky wax is especially suitable for coatings where moisture vapor resistance and a degree of flexibility combine with high melting points and heat-sealing characteristics to effect excellent protection.

VICTORY WAX — The Ideal Laminant . . . As a laminating material, where high moisture vapor resistance needs to be teamed with extreme flexibility even at low temperatures, our Victory Wax leads the field! Inherently adhesive, Victory Wax has excellent bonding strength.

High in Quality and Uniformity, All Bareco Microcrystalline Waxes Can Help in Many of Your Packaging Problems. Write for Our Illustrated Booklet Today.

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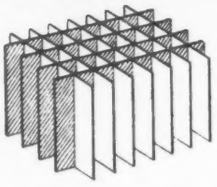
PHILADELPHIA 7, PA.

FOR BETTER PACKAGING

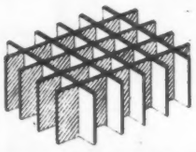


PARTITIONS

BOATS TRAYS NECKS

WRITE, PHONE or WIRE
for Quotations on Your Requirements

Prompt Deliveries Guaranteed



Reasonable Prices Assured

PETER

Manufacturing Co.

Manufacturers of Cardboard Partitions

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BROOKLYN 21, N. Y.
Telephone: FOxcroft 9-2129

For better usage . . .

(*Continued from page 192*) 1,000-by-1,000 system—that is, a 1,000 square inch-1,000 sheet basis—does not seem to be more than a temporary solution to their problem, particularly as more and more materials are being used in continuous rolls and the matter of sheet area and number will be of little more than academic interest to users.

It is interesting to quote an English comment on this proposal of a solution,* which seems very pertinent at this time:

"There is much to be said about the American proposal; but for us the alternative is to go straight to the adoption by this country (Great Britain) of the metric system of grams per square meter. The principle is exactly the same, a common denominator of one square meter to one unit of weight; but the basis is more logical in that it would bring us into practice uniform throughout the European Continent. To this basis the Americans, too, will have to conform sooner or later."

The logic of our British contemporary is sound, but it would be a very radical change for this country to accept the metric system and it is not likely to happen in the foreseeable future.

However, as a working alternative, the following proposal seems to be in accordance with the fundamental considerations and with the American (English) system of measurement and should not place too much hardship on industry in the process of acceptance and readjustment:

> *The yield of all packaging materials should be reported in two ways:*
> (1) *As the number of square inches per pound.*
> (2) *As pounds per thousand square feet.*
> *The basis of pricing would be based upon price per pound and the basis of payment would be based on net weight of contents,*

It will be observed that both weight values are recommended as being used in every case. However, if only one is given, it is simple to convert from one to the other, using the following factors:

144,000 divided by *sq. in. per lb.* = *lbs. per 1,000 sq. ft.*
144,000 divided by *lbs. per 1,000 sq. ft.* = *sq. in. per lb.*
Lbs. per 1,000 sq. ft. multiplied by *sq. in. per lb.* = *144,000*

The adoption by the packaging field of such standard measures of reporting yield would greatly simplify the work of comparison of various materials, would assist the coordination of cost and production departments, and would prevent the confusion which now exists because of arbitrary or antiquated standards of measurement which were adopted or inherited from other industries.

* *World's Paper Trade Review* (London), Nov. 23, 1945.

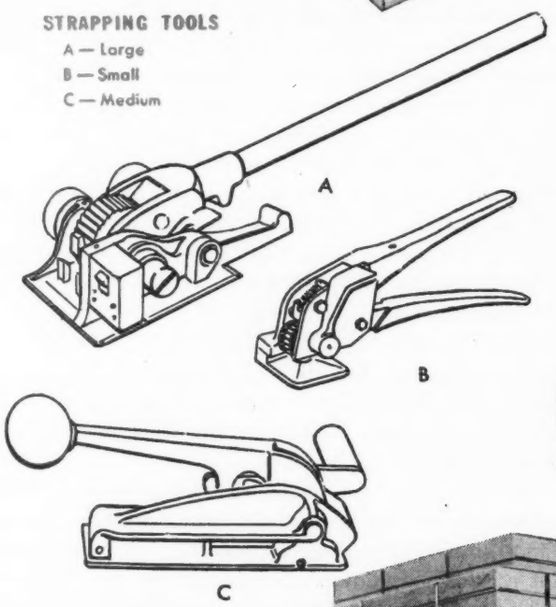
BETTER STRAPPING TOOLS

*Cut Shipping Costs—
*Reduce Damage Claims

Speed and economy in the shipping department is the first advantage of improved strapping with Steelband tools. Equally important is safe delivery of the goods in good condition —damage claims reduced to a minimum. All-round satisfaction is the total result.

Largely occupied till now with Government demands the facilities of Steelband are becoming available for more normal requirements of industry. The needs of each user will be separately and specifically considered. Consultation is invited.

STRAPPING TOOLS
A — Large
B — Small
C — Medium



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PITTSBURGH, PA. ESTABLISHED 1891 PLANT, CARNEGIE, PA.
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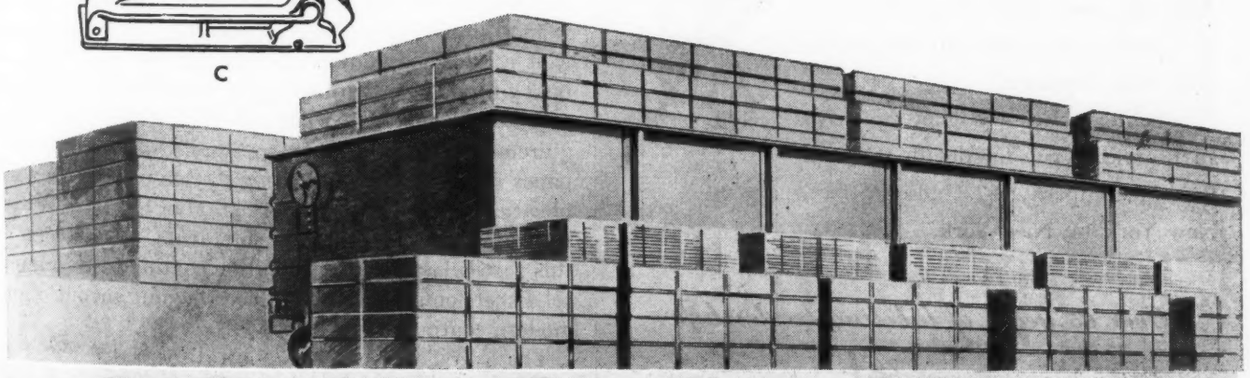

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Three Ermold Semi-Automatic Labelers in a Brooklyn plant.

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Semi-Automatic Labeler!

AND IT'S MASTER OF THEM ALL, TOO — whatever the style or shape, from gallon containers down to 15-drop ampules.

Quickly convertible from one size package to another, the Ermold Semi-Automatic Labeler is easy to operate and service, durably constructed for long wear. It's an ideal labeler for packers of small, diversified lines.

For *volume* production, the Ermold Multiple Labeler handles bottles or jars *in rows* . . . 4, 6, 8 or 10 *at one time.* And slow pace — only 20 cycles a minute — holds down wear and tear, breakage, work stoppages.

Labeling efficiency goes up with an Ermold. Write for details. Edward Ermold Company, 652 Hudson Street, New York 14, New York.

Over 65 years of labeling leadership

EDWARD Ermold COMPANY

Organosols . . .

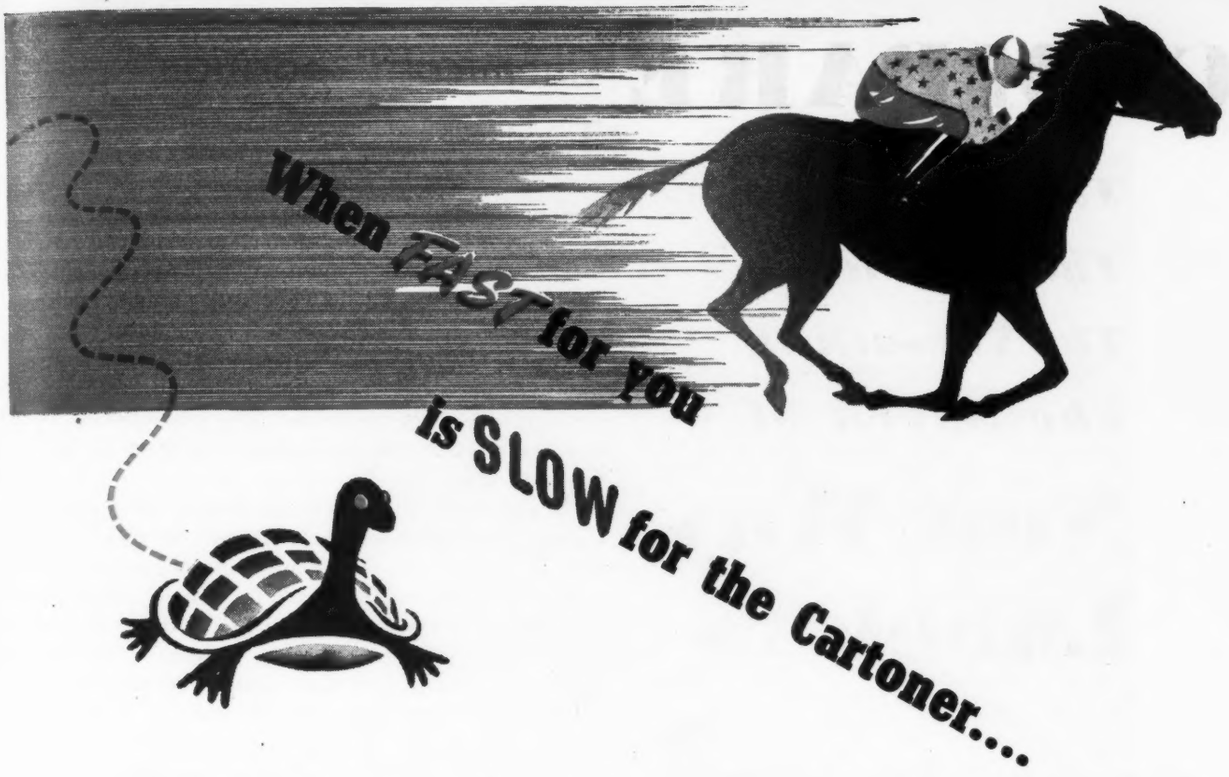
(*Continued from page 193*) methods. For practical considerations of film quality, it is frequently desirable to apply two or three coats where heavy coatings are required. However, commercial instances are known where it has been possible to eliminate as many as 12 or 15 coats in attaining a desired end product.

The principles upon which the organosol dispersion is based are quite simple. A finely divided resin powder is dispersed in a plasticizer in much the same manner as a pigment would be handled. Whereas some surface swelling or solvation of the resin takes place, its solution is not attained. For this reason, no question of solution viscosity or attendant stability problems (characteristic of solutions) result. The volatile constituents are chiefly non-solvents and are used merely as carriers. It is possible to prepare these dispersions without any volatile carrier. Such 100% solids dispersions are known as plastisols. However, for most coating requirements the organosol type, containing between 65% and 70% of solids, has been found most useful.

Organosols may be pigmented in any shade desired, or may be applied as clears. It is customary to apply a light base coat first to minimize penetration, though this is not always necessary. When the volatile carriers have been removed by conventional drying means, it may be desirable to calender this base coat before applying the remainder of the coating if the stock has a rough surface and a high finish is desired. After the volatile carriers have been removed from the finished coating, a discontinuous deposit remains which must be fused for approximately 1 min. at about 350 deg. F. This fusion transforms the deposit into a tough, well-anchored, continuous film. Some slight deterioration in the strength of the cellulose fibres may result from a poorly controlled fusion operation, though in many instances this is more than offset by the gain in tensile strength from the applied film.

This method of coating is still too new to permit any accurate predictions as to how extensive its contribution to improved packaging may be. It seems quite well established, however, that in the application of heavy films, its advantages will outweigh the obstacles to be overcome. To what extent it will meet the requirements of light films as applied to light-weight paper stocks is not now known. One outstanding application has been in the fabrication of heavy multi-ply wraps for overseas ordnance shipments. Conversion of this particular work from solution coating to an organosol dispersion more than doubled the unit output of one modern coating plant.

The average cost of organosol dispersions, based on film-forming solids, has been found to run approximately one-half that of equivalent solids carried in solution. This should be considered, together with the fact that the film deposited is of superior quality to that possible of attainment by other means.

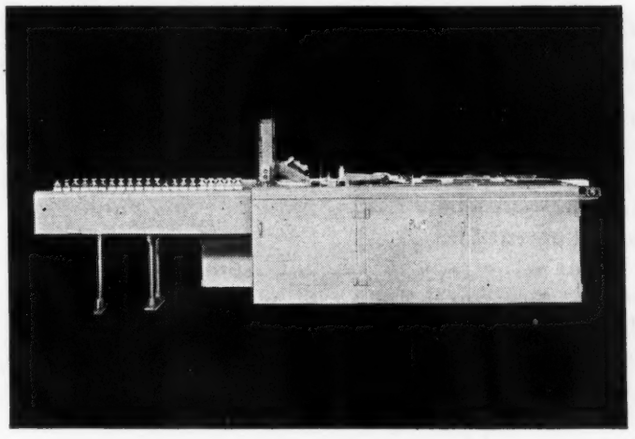


You Get Non-Stop Operation at Low Cost

Many Jones Cartoners can run a lot faster than they are ever asked to run. And this reserve speed is highly important. For when a machine is working well within its capacity it operates more smoothly—more efficiently—over a longer period.

That's one reason the Jones Constant Motion Cartoner has such a deserved reputation for non-stop operation and for a prolonged useful life. You get the best cartoning job in your experience, and you get it at the lowest possible operating cost.

Gillette blades—Sheaffer's ink—Barbasol shaving cream—Lifebuoy soap—hundreds of America's most famous cartoned products are cartoned by Jones. These companies have found the Jones Cartoner an important factor in increasing production capacity while decreasing production costs. If your product is—or can be—cartoned, why not get in touch with us today? Your inquiry—along with a sample of your product—will receive a prompt response.



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Visit Our Exhibit at The Packaging Exposition, Atlantic City, April 2–5, Booths 512–513

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REMEMBER THE MAJORITY OF AMERICA'S CARTONED PRODUCTS ARE JONES CARTONED

COMPARE

The Simplicity

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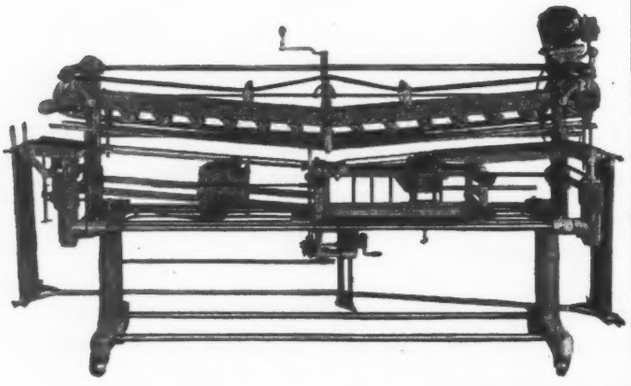
The Versatility

The Speed of

New Way Labelers



New Way Labeling Machines...a product of Chisholm-Ryder Company...are the most efficient Labelers available today. Simple in operation...no "trick" adjustments to cause trouble...marvelous efficiency on any type of cylindrical container, tin, glass or fibre...a quick change-over feature that permits the labeling of various size containers...plus high speed operation.

That's the type of labeling equipment you need. And you'll find it in New Way. These Labeling Machines are available in adjustable and non-adjustable models...with or without elevating fees...fully automatic.

Send for special bulletin describing New Way Labeling and Casing equipment.

THE BEST OF Everything IN LABELING AND CASING EQUIPMENT

Chisholm-Ryder

COMPANY OF PENNSYLVANIA

HANOVER, PENNSYLVANIA

Chemical Exposition

The Exposition of the Chemical Industries, one of the great peacetime shows of interest to packaging, resumed after a wartime lapse with a vast range of materials, equipment and supplies exhibited at Grand Central Palace, New York, Feb. 25 to March 2.

This was the 20th Exposition of this permanent organization, the purpose of which is to promote relationships between research, industrial organization and the media of production through visualization, demonstration and personal contact. Normally, the shows are held once every two years. This year's list included nearly 400 exhibitors, occupying four floors of Grand Central Palace.

Of particular interest to packagers were exhibits pertaining to the latest developments in microcrystalline waxes; an electronic automatic flow controller; a new double-shell drier roll for paper, plastic and printing production; weatherometers; dispersion mixing equipment; sub-zero test cabinets; humidity apparatus; coating thickness gauges; a wrap-around attachment for labeling vials and bottles; a "Code-o-matic" machine for printing code and batch numbers on labels, and materials handling equipment.

The Kimble Glass Co. showed a wide range of laboratory and pharmaceutical glassware, including vials, ampuls and serum bottles. The Union Bag & Paper Corp. featured multi-wall bags and containers. The Associated Cooperage Industries of America demonstrated proper methods of removing and replacing heads in wooden barrels.

Frozen food container for home use

Sealright Co., Inc., Fulton, New York, announces the development of an improved moistureproof frozen food container for locker plant and home freezer use. The new container has a special glassine lining which, the company claims, is moistureproof and affords complete protection against dehydration of the contents. The new lining seals in food flavors completely and prevents outside odors from penetrating through the package to the food. Containers are cylindrical in shape, to permit freer circulation of air in the freezing compartment, and are made of sanitary board sturdy enough to withstand rough handling. A space is provided on the cover for marking the date and contents of each container.

Creative designing and restyling
Exclusively handmade boxes

by

MAKDON

in New York City
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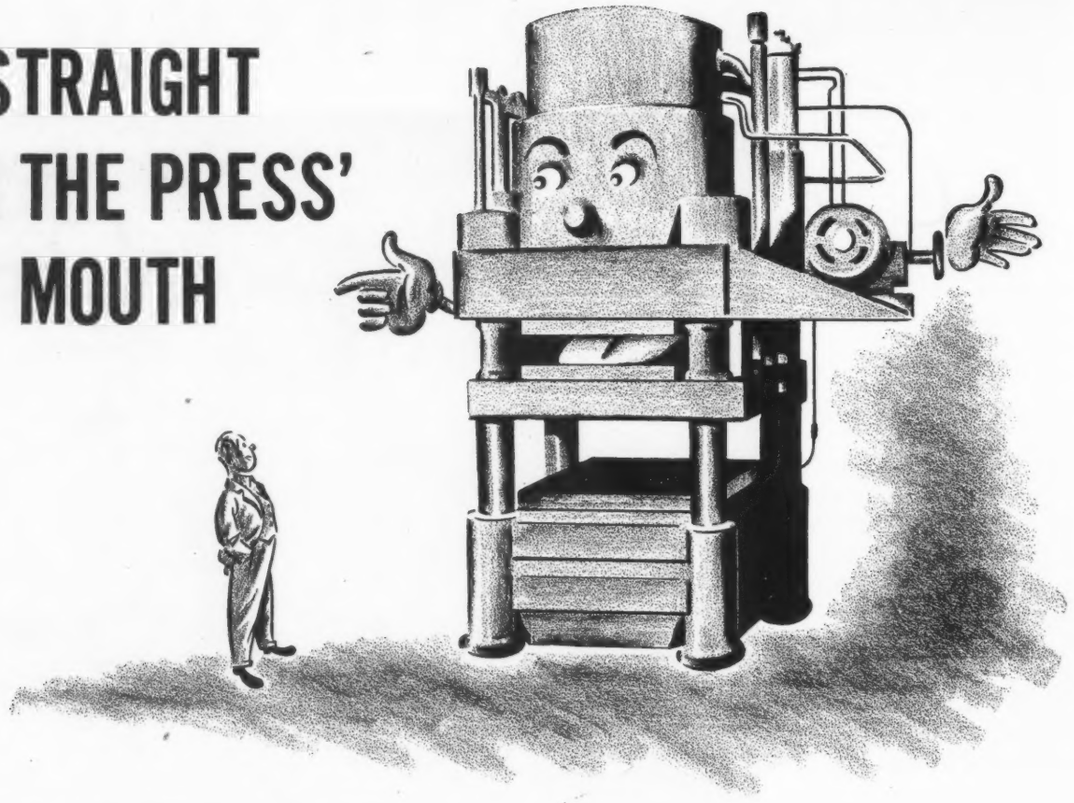
STE ANONYME JACQUES MAKOWSKY
ATELIERS D'IMPRESSION ET DE CARTONNAGE D'ART
34 RUE DES PEUPLIERS • SINCE 1920

STRAIGHT FROM THE PRESS' MOUTH



Maybe you don't think a molding press can talk?

We would like to introduce one of ours—it's got more brains than we have, sometimes. It's an automatic robot we designed and built ourselves. You put powder in at one end, fix the molds in place, set the cycles, and it will turn out literally millions and millions of pieces without pause as long as you keep feeding it powder.

Matter of fact, we were talking to the press only the other day. It was rather a one-sided conversation—the press did most of the talking. It said, "How about some packaging work? I don't want to get typed on straight industrial applications. A press can go stale just like anybody else, you know, if it doesn't get some variety."

"Is that so?" we asked weakly.

"Yes, that's so," the press replied. "Why don't you get after some of your packaging customers and tell them how many closures we can turn out, how cheaply, for instance, and tell them about some of the other machines we have around here, too. How they can make boxes and other kinds of packages and maybe some novelties and other things that packagers can use."

"But," we replied even more weakly, "we're all so busy these days."

"Busy, busy," the press said, "that's all I ever hear. I want some variety in my life and you better get after those packaging industries pretty quick or else I will just quit on you!"

So we said we would and we are.

We will be glad to mold your plastics in any shape or form and we will do our d—dest to give you service in spite of material shortages and other problems.

Our little book "A Ready Reference for Plastics" will give you some straight talk on what plastics are, how they are handled, etc. Free to interested companies.

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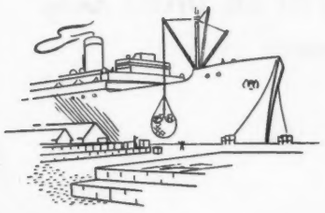

In filling export orders be sure that you are doing a complete packaging job . . . be sure that your corrugated shipping boxes provide that extra margin of safety that protects your products against the dangers of distance shipping, thereby eliminating costly damage payments.

EXPERTLY ENGINEERED
FOR SAFE DELIVERY

A correctly engineered shipping box combines maximum protection with maximum economy . . . eliminates the need for over-packing. H & D shipping box engineering . . . that certain skill that comes from the H & D Package Laboratory, makes sure that your merchandise will arrive safely, and ready for quick selling . . . no matter how far it travels or how rough the journey. See for yourself how H & D packaging experts can help you plan engineered boxes which assure you safer shipping, increased customer good will, extra sales for your merchandise. Write for the booklet, "How To SHIP in Corrugated Boxes." The Hinde & Dauch Paper Company, Executive Offices, 4602 Decatur St., Sandusky, Ohio.

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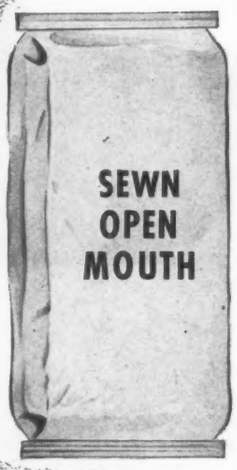
We make HEAVY DUTY MULTIWALL PAPER BAGS *only*

Millions of them — all four types:

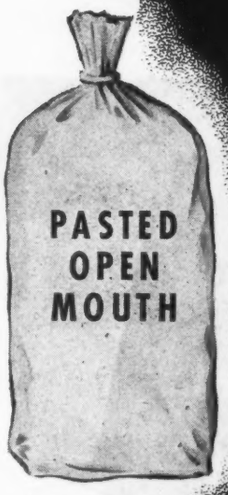
For

Units Ranging from 25 to 100 lbs.

① Sewn Open Mouth
② Pasted Open Mouth
③ Sewn Valve
④ Pasted Valve



When packing your product in paper bags it is necessary to use the *proper type* bag. Our engineers are equipped to make the right recommendation—each is a specialist in this field. Therefore when you buy from International you can be sure we will supply the proper type bag for your particular requirements.



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International Paper Company

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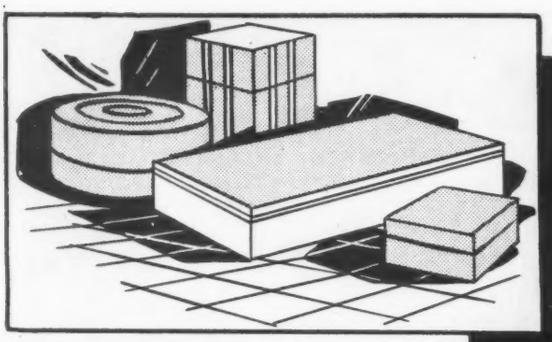
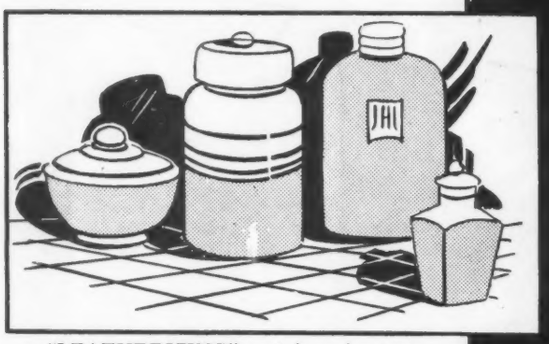
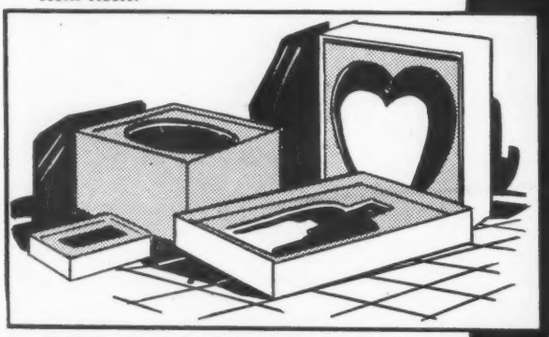
PACKAGING AND DISPLAY SPECIALISTS FOR HALF A CENTURY



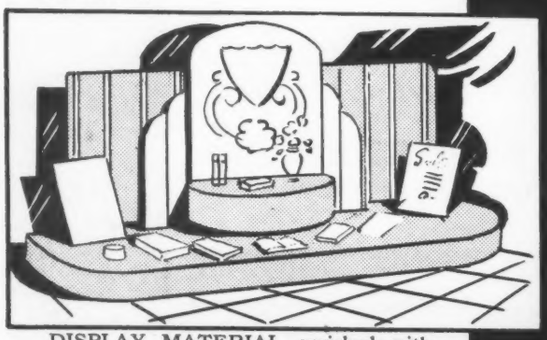
FLOCKED COVERINGS are available in paper and cloth bases, permitting suede, velour or velvet effects. Flock striped coverings are also feasible.



"LEATHERIZING" containers is accomplished by flocking with suede effect coating. Velvet or velour effects are similarly obtainable on containers of paper, card, glass, wood, plastic, etc., also on the item itself.



PADS AND LININGS flock-coated in contrasting colors make extremely effective interiors for gift and display containers. On simple card base, surprisingly rich effects are obtained for pads and cut-out holders.



DISPLAY MATERIAL enriched with flock, is in a class all by itself for deluxe effects at economy cost. For name cards, counter cards, window material.

See what you can do with

RAYCO Flock

to create

PACKAGING THAT SELLS

The ability of Flock to glamorize a product is truly amazing. Surround your merchandise with flock, and you surround it with an atmosphere of interest and "class" that adds to its value in the mind of the purchaser. Flock comes in all colors and is surfaced on any material to give it the appearance and feel of genuine Suede, Velour, Velvet. Consult your supplier for flocked coverings. Consult us for data about flocking on the actual product or container itself.

SEND FOR FREE BOOK

"Surface Coating with Flock" containing actual color swatches and a wealth of ideas and data.

RAYON PROCESSING CO. of R.I. INC.

110 TREMONT ST., CENTRAL FALLS, RHODE ISLAND

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PART OF THE PICTURE of famous products

Illustrated: Waldron Horizontal Reverse Roll Coater. Other types include "Micro-Jet", "Synchroset", Knife, Combination Roll and Knife.

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The first coating machine in this country was built by WALDRON in 1852. In every major development in the science of coating since that time, WALDRON engineers have played a prominent part. Today, modern WALDRON machines are designed for a wide variety of coating methods devised to meet individual product and processing problems.

To insure maximum speed, uniformity and quality of coating, the leading makers of coated paper and fabrics specify machines designed and built by WALDRON—machines that embody nearly a century of engineering experience in producing precision coating. Whatever your coating problem, there's a modern WALDRON machine especially designed to correctly meet it.

Utilize the services of our Research and Development Staff and the facilities of our Testing Laboratory to determine in advance your equipment requirements.

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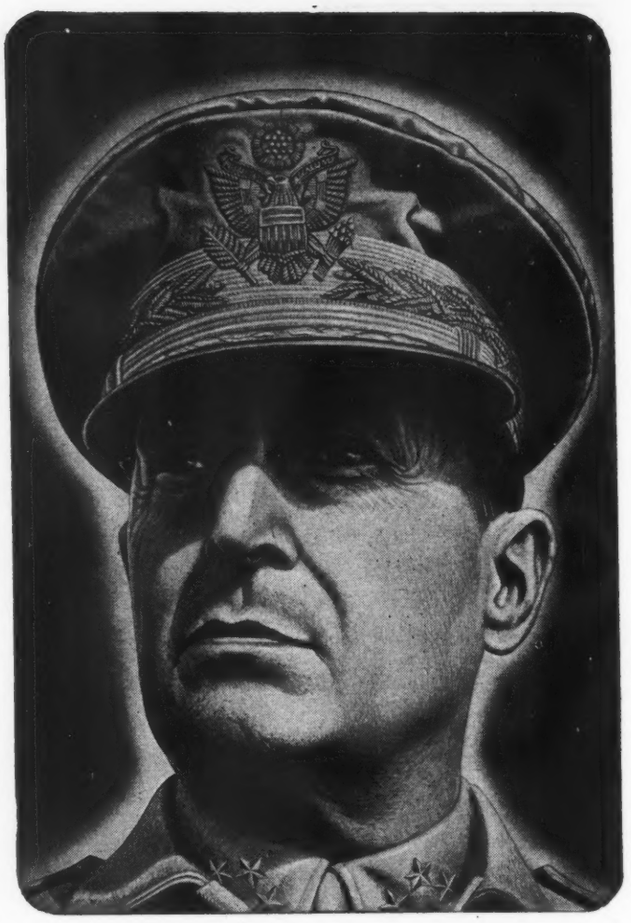
BUILDERS OF QUALITY MACHINES SINCE 1827

You can take General MacArthur's word for it!



"The Red Cross has done a 100 per cent job in this theatre. Mathematical limitations alone prevent my saying the Red Cross services here have been more than 100 per cent."

—General Douglas MacArthur

SO SPEAKS a distinguished eye-witness of your Red Cross in action. General MacArthur *saw* the Red Cross at your fighting man's side, all through the gruelling months of the Pacific campaign. He saw Red Cross men under fire on D-Day beachheads—sweat it out in foxholes—follow the men with candy, cigarettes and other comforts right up to the firing line.

He knows that wherever your fighting man went, your Red Cross went, too—that wherever, whenever he needed respite and recreation, help with a personal problem, or just someone to talk to, the Red Cross was there.

He also knows, as you do, that your Red Cross cannot yet say, "Mission accomplished." It still has an enormous task to do. With your help, it will carry this task to a successful completion.

The War is over . . . but another battle has begun

Your Red Cross must now fight on three new battlefronts. The thousands of our men still in veterans' hospitals and in faraway lands overseas need its comfort and cheer now, as they did when the bombs were bursting. And as our servicemen return to civilian life, your Red Cross must lend them a helping hand.

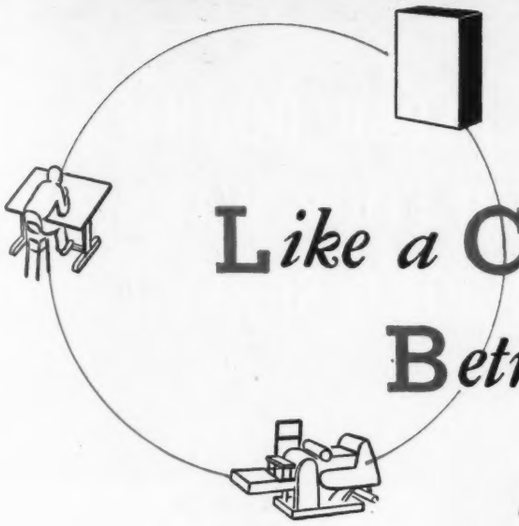
And when disaster strikes here at home—fire, flood, tornado—your Red Cross must be ready with aid for the victims. Its war against human misery is never wholly won.

But remember—it is *your* Red Cross. It depends on you for its very existence. So give from your heart. Give generously. Give *today!*

YOUR Red Cross MUST CARRY ON . . . *GIVE!*

MODERN PACKAGING

★ *Prepared by the Advertising Council in Cooperation with the American Red Cross* ★



Like a Circle, Betner *Packaging Service* *is* COMPLETE!

Users of Betner bags and Betner service read like a blue book of the food industry.

Some may use only a Betner made bag. Others may ask Betner artists to do them a bag design, have Betner printing presses print it on their bags. And still others have Betner install the modern Benco machinery, which loads and seals their product at peak speed, efficiency and economy.

From idea to package to finishing room, Betner service is complete. You are invited to use it—all or part. Inquiries invited, no obligation.

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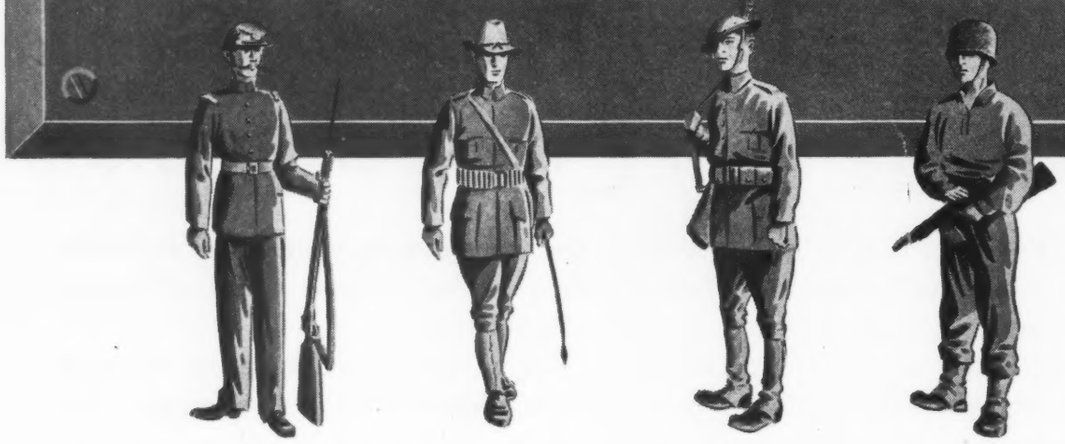
BENJ C BETNER CO OF CALIFORNIA, LOS ANGELES, CAL.

BUTTERFIELD-BARRY PAPER BOARD DISTRIBUTED THROUGH FOUR WARS CONTINUES UNINTERRUPTED SERVICE



1946 marks the 93rd year that The Butterfield-Barry Company has served American packagers with all grades of boxboard and specialties.

At this time we are pleased to announce that Royal Satin (the aristocrat of set-up boxboard) is again available in limited quantities both from our New York warehouse and by direct mill shipment.

During this postwar period, quality is again becoming the essential factor in merchandising. Throughout its long existence our name has been synonymous with quality boxboard.

Have you investigated the possibilities in Tredonia board?—the latest development in moisture-proof and grease-proof lined board for both set-up and folding boxes.

Samples sent on request.

THE BUTTERFIELD-BARRY COMPANY
Incorporated

174-176 Hudson Street **New York 13, N. Y.**

Introducing...

PERFECT'S ZAPAK* PLASTIC COATING

by

Perfect Finishing Co., Inc.

200 VARICK STREET
NEW YORK 14, N. Y.

*TM ... MARK REG.

PERFECT'S
Zapak Plastic Coating

. . . recommended for all types of
packaging and advertising material

because...

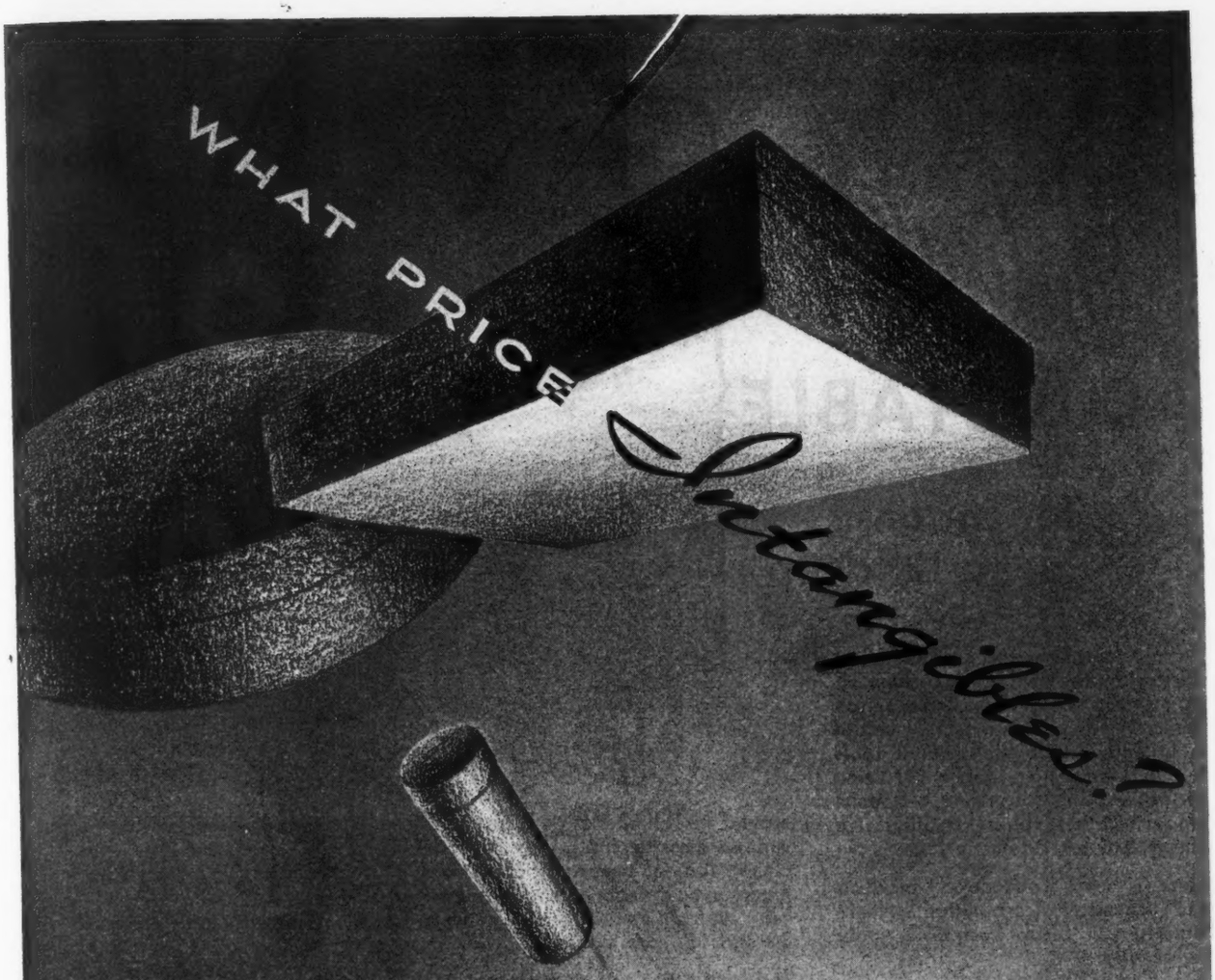
it is permanently flexible, water white and lustrous . . . it RESISTS grease, alcohol, mild acids and alkalis, water and vapor moisture.

IT IS HEAT-SEALING
IT IS NON-TOXIC

Perfect Finishing Co., Inc.

200 VARICK STREET NEW YORK 14, N. Y.
Phone WAlker 5-9287-8

Lacquering, varnishing, gumming, special coatings, straight and die label cutting



Pick up a Cambridge container.

Can you **see** the ingenuity and mindpower that conceived this specific package for a specific use? Can you **feel** the long years of research, the concentrated effort, which went into making a container with so many distinct advantages?

No — for these are intangibles . . . imperceptible to sight or touch. But these are also the vitally important factors — the **plus** factors — that distinguish each Cambridge container. And because of the plus factors, every package we develop for you is not merely a box, but an integral part of your product.

Depend on Cambridge for containers of **tangible** quality, beauty and strength . . . as well as the **intangibles** that make them outstandingly successful.

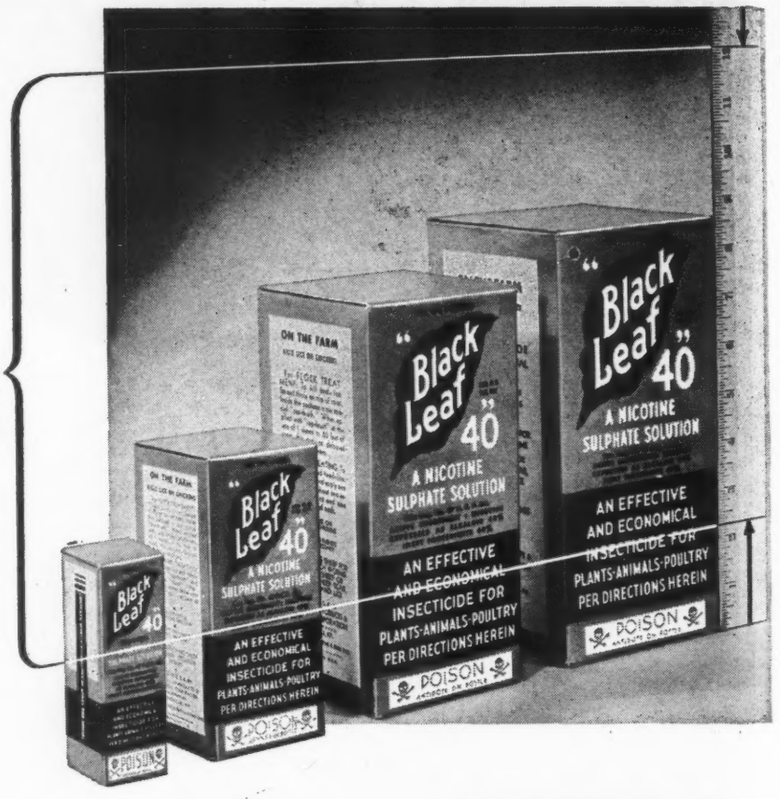
CAMBRIDGE *Containers*

CAMBRIDGE PAPER BOX CO., CAMBRIDGE, MASSACHUSETTS

BOXES • CANS • TRANSPARENT CONTAINERS • LABELS AND ALLIED PRODUCTS

Infinitely ADJUSTABLE

for cartons 2¼" to 12" deep


Black Leaf 40
A NICOTINE SULPHATE SOLUTION
AN EFFECTIVE AND ECONOMICAL INSECTICIDE FOR PLANTS-ANIMALS-POULTRY PER DIRECTIONS HEREIN
POISON

If your cartons range from 2¼" to 12" in depth, you can seal them all on a single CECO Adjustable Carton Sealer. The standard CECO model is instantly adjustable without tools by unskilled help for ANY size carton within this range. Special models are also built for other size ranges and for automatic feed.

Here is what Tobacco By-products and Chemical Corporation, manufacturers of "Black Leaf 40," wrote us recently:

> *"Before we purchased the CECO Sealer the bottleneck in our production line was a matter of carton sealing. The installation of your equipment has definitely removed this bottleneck. We are delighted with your machine."*

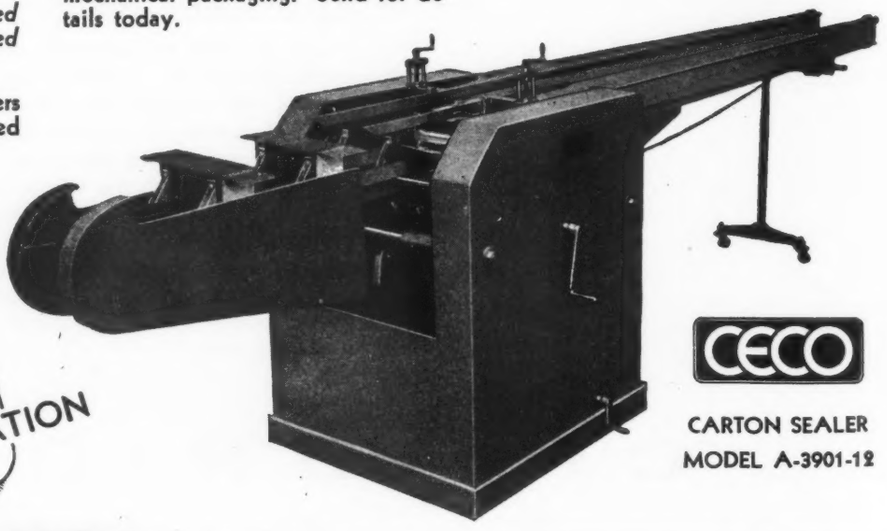
CECO Adjustable Carton Sealers are portable so they can be shifted around to eliminate bottlenecks in various departments. They turn out clean, square, tamper-proof cartons, glued simultaneously and automatically on both ends at speeds between 30 and 120 per minute.

The low initial and operating cost of a CECO Adjustable Carton Sealer enables even the smallest concern to enjoy the labor-saving benefits of mechanical packaging. Send for details today.

CECO

Adjustable

CARTON SEALER



CECO

CARTON SEALER
MODEL A-3901-12

CONTAINER EQUIPMENT CORPORATION

Packaging Machinery Specialists

214 RIVERSIDE AVE., NEWARK 4, N. J.
CHICAGO • TORONTO • BALTIMORE • ST. LOUIS
SAN FRANCISCO • ROCHESTER

AN IMPORTANT ANNOUNCEMENT

To Users and Converters of
Aluminum, Lead and Tin Foil

As the recently appointed U. S. sales agents for Dominion Foils Ltd. of Canada, we can now make prompt deliveries of high grade aluminum, lead and tin foils.

These foils are produced by one of the finest and most up-to-date plants in the world, and their quality is equal to imported European grades.

Users and converters of aluminum, lead and tin foil are invited to send for quotations. Please specify type, caliper and approximate annual requirement.

BULKLEY, DUNTON & CO.

Specialty Division

295 MADISON AVENUE • NEW YORK 17, N. Y.

CHASPEC'S Unique manufacturing facilities

. Forming	. Blanking	. Embossing	. Cutting
. Combining	. Gluing	. Laminating	. Assembling
. Coating	. Spraying	. Enameling	. Finishing

MATERIALS USED

Metal Paper Wood Paperboard Masonite
Tekwood Composition Sheet Plastics Fibre

THERMOLOID (Our own specialty)

The asphaltum impregnated fibre plastic board. Thermoloid is moulded, pressed and formed in high relief dimension. In many instances it has replaced metal and plastics.

CHASPEC displays add a third dimension . . . a new real and appeal . . . to point-of-sale merchandising.

These displays are permanent . . . designed, embossed printed for long term salesmanship.

Whatever your needs . . . whatever your message . . . **CHASPEC'S** special process of high relief . . . **CHASPEC** 25 years of ingenuity in design and merchandising . . . create a truly handsome display for your product . . . supplied any quantity at reasonable cost.

Let us help you solve your display problems.

CHASPEC MANUFACTURING CO.
295 Lafayette St., New York 12, N. Y. Canal 6-

Why not change M. V. T. to M. V. C.?

The difference between M. V. T. (moisture-vapor transmission) and M. V. C. (moisture-vapor control) is the difference between an effective wrap and a poor one. You can be sure of M. V. C. with Darex Thermoplastic Coatings, for they are designed to provide a true moisture-vapor barrier. Darex Thermoplastic Coatings offer positive advantages for wrapping cheese, cereals, frozen foods, and innumerable other hygroscopic products.

Darex Thermoplastic Coatings give you:

1. Remarkable heat-sealing qualities.
2. Controllable film weights for "tailored" applications.
3. Clean creasing, with resistance to cracking.
4. Ability to withstand low temperatures without flaking.
5. Freedom from taste and odor.
6. One-side coatings, providing an excellent printing surface.
7. Economical large-scale application.

. . . . . *plus* positive assurance against moisture-vapor transmission.

DAREX THERMOPLASTIC COATINGS

A product of DEWEY AND ALMY CHEMICAL COMPANY Cambridge 40, Massachusetts

TESTED and PROVED SYNTHETIC COATINGS FOR PAPER and CLOTH

Now in use by a number of leading manufacturers, Flood & Conklin coatings for heat-sealing, moisture and grease-proofing and adhesion are recognized nationally as top standard for quality and performance.

MOISTURE-PROOF COATING #173

A fine moisture-vapor-proof coating especially designed for food, tobacco and other products. Moisture-vapor transmission as low as .1 grams per 100 sq. inches in 24 hours—90 R.H. (Southwick cabinet). Test run on coating of 1 lb. of solids per 1000 sq. feet. Moisture-proof coating #173 is both heat sealing and non-toxic.

Special adhesives—Acetate to Acetate, Acetate to Paper, Aluminum Foil to Paper, Aluminum Foil to Aluminum Foil.

Laboratory facilities are available to all industries in the development of specialized coatings for specific requirements.

FLOOD & CONKLIN MFG. CO.

Coatings of Scientific Reliability

NEWARK 5, NEW JERSEY

If your product has any of these characteristics . . .

You'll be interested in seeing the new U. S. E. Guide to Packaging . . .

Current trend in packaging is to *show* as well as to protect — and new methods and materials are making it possible to do both.

You would like to know *now* whether or not your product can be packaged to meet these modern requirements.

In order to assist you in any preliminary studies, the Kellogg Container Division of the United States Envelope Company has developed a Container Check List. Part of the new U.S.E. Envelope Analyzer Kit, it provides a comprehensive chart that shows at a glance standardized container types that might meet all your needs. We will send you the complete Analyzer Kit as you will find it an authoritative guide to the profitable use of envelopes and containers in mailing and business systems, too. Ask for a copy on your letterhead, please. No charge.

. . and in meeting the U. S. E. Packaging Expert

Whether your product requires a tailor-made or standardized package, the U.S.E. Packaging Expert is ready to consult with you . . . suggest flexible or rigid containers to give your product new sales appeal . . . proper security . . . and perhaps to lower your packaging costs. His experience and knowledge, plus the facilities of the Kellogg Container Division, are available to you at no obligation.

P13-T

UNITED STATES ENVELOPE COMPANY

14 Divisions from Coast to Coast

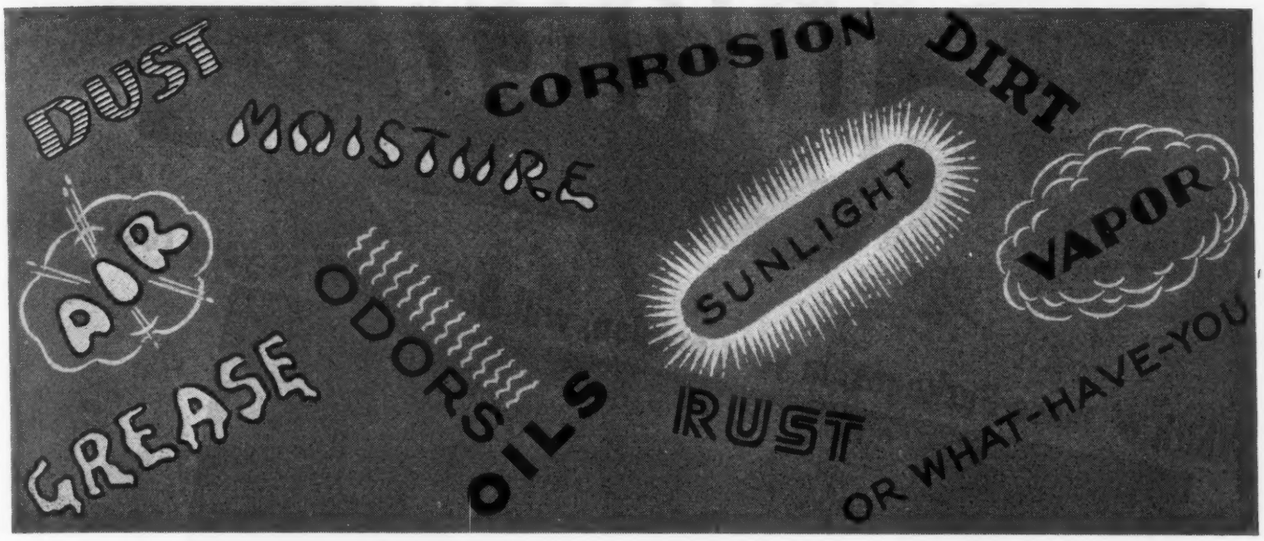
U·S·E PROTECTIVE PACKAGING

K KELLOGG CONTAINER DIVISION SPRINGFIELD MASS.

MAIN BUILDING
RECEIVING ROOM
Superb Packaging
UNIQUE • EFFECTIVE • ECONOMICAL
ENDLESS ADAPTATIONS
Sanitape-Sealtite
CONTRACT SERVICE
MODERN • PROMPT • EFFICIENT
EXECUTIVE OFFICE
MAIN PACKAGING ROOM
Here you find the "last word" in packaging —Sanitape-Sealtite and Contract Packaging Service.
For pills, tablets, liquids and powders—in single or multiple unit samples, standard sale packages or large dispensing sizes—Sanitape-Sealtite affords unequalled advantages.
Contract Packaging is modern packaging—your product is received by us in bulk, packaged by Sanitape-Sealtite, assembled in consumer units and shipped to designated destination.
Tell us your problem and we will give you complete details as to how our facilities can serve you.
UNIT PACKAGING
INDIVIDUAL PACKAGING ROOM
SHIPPING DEPARTMENT
IVERS-LEE COMPANY
215 Central Avenue, Newark, N. J.

Bring On Your Packaging Hazards

Decotone Know-how will Tame Them!



DECOTONE PRODUCTS DIVISION

CUSTOM-CREATES PACKAGING MATERIALS FOR SPECIFIC PRODUCT NEEDS

No matter which of these hazards your package must protect your product from, Decotone research can develop a packaging material to do the job successfully.

Moisture, vapor-proof barrier papers; textile-lined, foil combined to paper materials; special coatings; foil and/or paper laminated to grease-proof or films. These are some of the protective packaging materials Decotone developed and produced for war. Today, Decotone know-how and facilities are ready to produce them and numerous others for your peacetime use.

Consult us on your packaging problems. Let us create a packaging material specifically for your product, to insure its arrival in perfect condition at point of use. Write today!

DECOTONE PRODUCTS

DIVISION

Fitchburg Paper Company

PACKAGING PAPERS *Converted Papers* SPECIALTY PAPERS

FITCHBURG, MASS.

Which of these Packages, in your opinion, will Roll Faster to your customer?

FROM ACTUAL PHOTOGRAPHS, AT A DISTANCE OF 3 FEET

These are three commonly used methods of marking packages—stenciling, labeling and hand-marking —common carriers, such as the railroads, truckers and Railway Express, recommend stenciling.

Why take a chance—rain and damp weather obliterate type or hand written labels—avoid hand addressed mistakes—illegibility—labels coming off—lost shipments—delayed shipments.

Stencil address your shipments to keep your packages out of the carriers' Lost Shipment Warehouse.

Stenciled Shipments Roll Faster

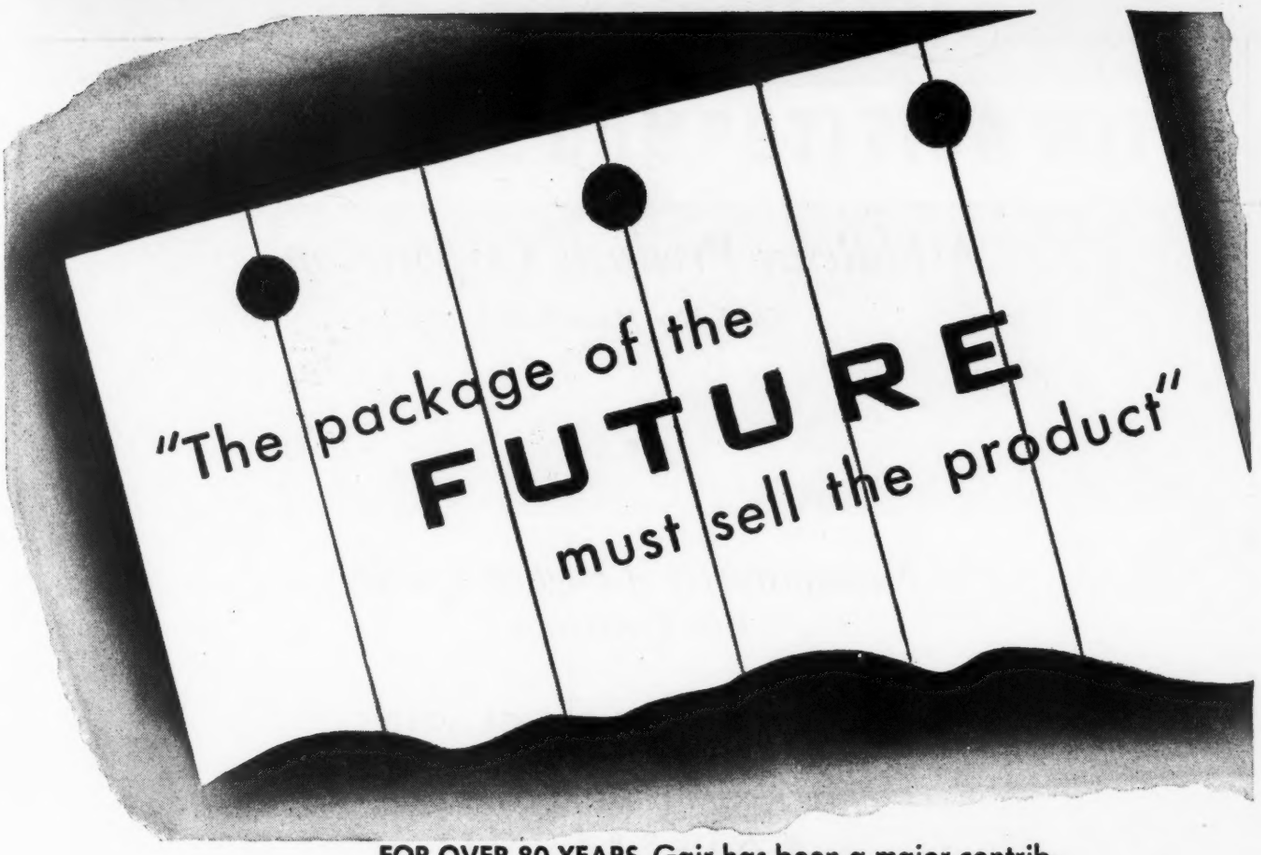
THE WORLD'S OLDEST AND LARGEST MANUFACTURER OF STENCIL CUTTING MACHINES

D.B. REG U S. PAT OFF

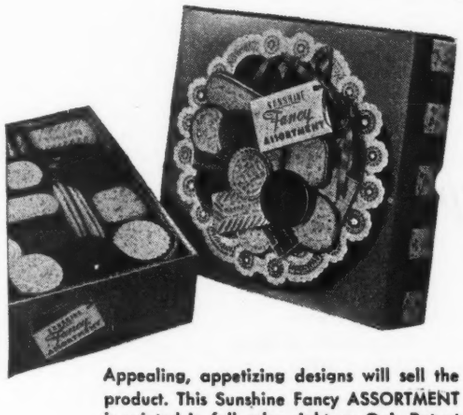
DIAGRAPH-BRADLEY
STENCIL MACHINE CORPORATION
ST. LOUIS 8, MISSOURI

DISTRIBUTORS IN PRINCIPAL CITIES—SEE CLASSIFIED SECTION—TELEPHONE DIRECTORY—STENCIL CUTTING MACHINES

OVER 100 D-B ITEMS FOR THE SHIPPING ROOM



FOR OVER 80 YEARS, Gair has been a major contributor to the art of packaging. Many of the great industries of America and the world have turned to Gair to solve their packaging problems. Many an obscure product has achieved international distribution due to the ingenious packaging ideas of Gair — from the cracker barrel and hoop skirt era to frozen foods. The principles of packaging that are meeting with rigid war-time standards will be utilized in packaging everything from pencils to plow shares. Send your present and postwar packaging problems to Gair.



Appealing, appetizing designs will sell the product. This Sunshine Fancy ASSORTMENT is printed in full color right on Gair Patent coated paper board. Another famous Gair design and product. Write for Printers' Ink article by Egmont Arens industrial designer in which this Package appears.

SAVE GAIR WASTE PAPER

WRITE FOR BOOKLET "FASHIONS IN CARTONS"

ROBERT GAIR COMPANY, INC., NEW YORK • GAIR COMPANY CANADA LIMITED, TORONTO

Folding Cartons • Box Boards • Fibre and Corrugated Shipping Containers

Middlesex Products Corporation

Cambridge, Massachusetts

•

Manufacturers of Highest Quality Box Coverings

COLORED FRICTION GLAZED
PRINT-EMBOSSED
MICA COATED METAL COATED
WATERPROOF
EMBOSSED
PLATED
FOILS

At the earliest possible date, Middlesex will again feature "same day shipments" from a large and varied stock.

In planning for your future requirements be sure to call on the nearest Middlesex office for sample sheets and information.

Middlesex Products Corporation

INCORPORATED 1866

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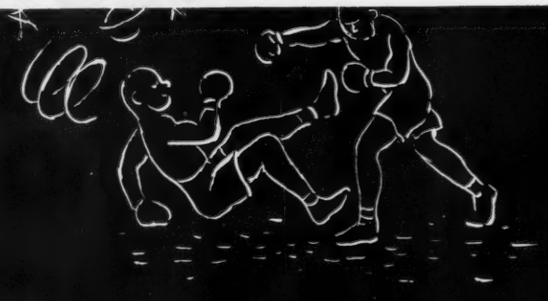
Phone: TROwbridge 0680

Branch Sales Offices:
401 N. Broad St., Philadelphia 8, Penn.
Phone: LOMbard 4684

308 W. Washington St., Chicago 6, Ill.
Phone: FRAnklin 6090

HIT PEACE TIME COMPETITION WITH

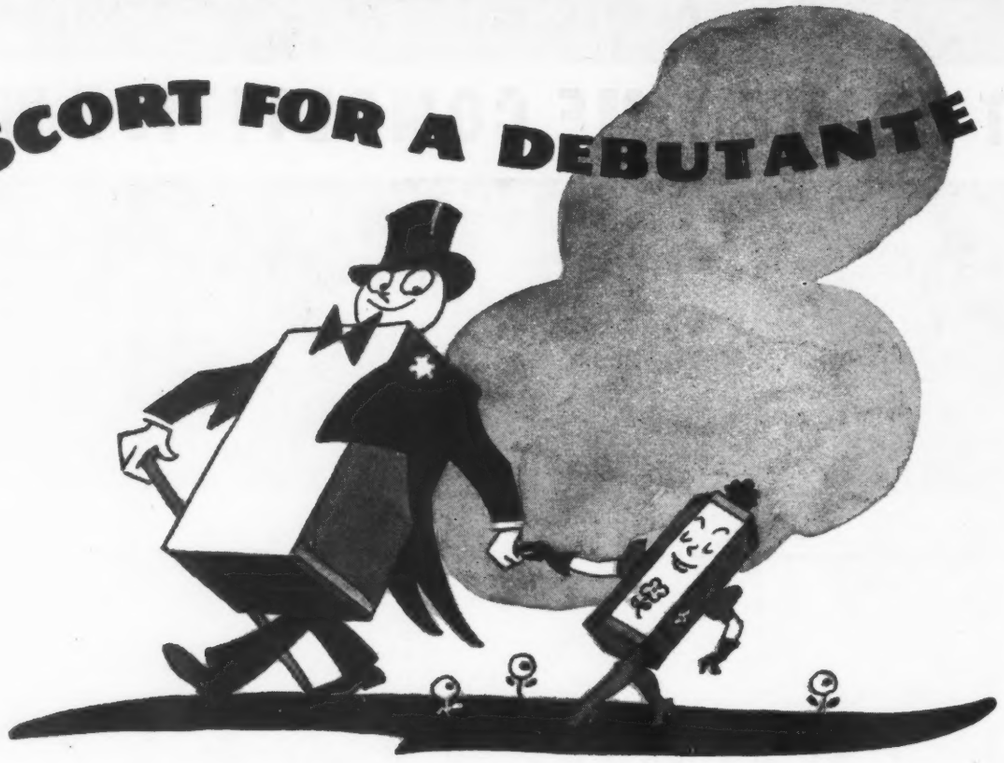


HEEKIN CANS

ANY SHAPE · ANY SIZE · ANY COLOR · ANY QUANTITY

THE HEEKIN CAN CO., CINCINNATI 2, OHIO

ESCORT FOR A DEBUTANTE



You have gone to a lot of trouble to "dress" your product for its "bow to the public." It is important that it arrive at its destination safely. That's up to the shipping container. Hummel-Ross makes the sturdy Kraft boards and liners from which those shipping containers are manufactured. These materials have proved their toughness and dependability not only in escorting prize packages safely from factory to counter, but during the war they were battle-proved for better, safer delivery of countless materials of war.

Our experience in originating and manufacturing Kraft liners, folding box board and Kraft Specialties, is always yours to command. Perhaps we can help you with your problems.

HOPEWELL KRAFT

Originators • Creators

HUMMEL-ROSS FIBRE CORPORATION

Hopewell, Virginia, U. S. A.

MANHATTAN'S LION – SYMBOL OF QUALITY!

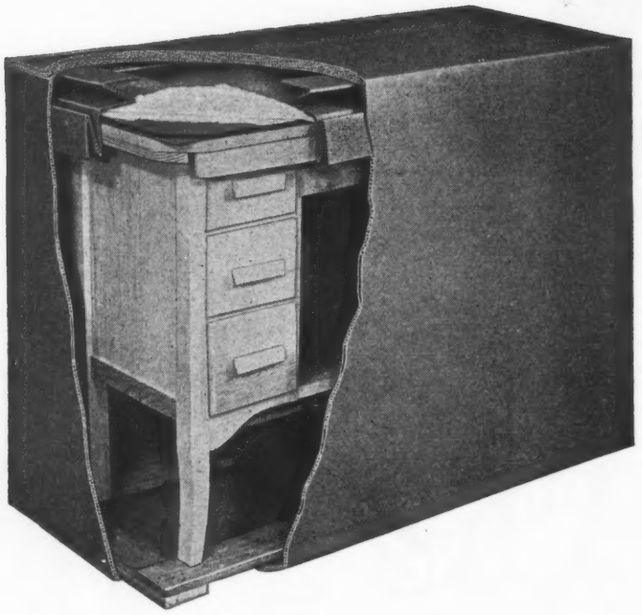
AMERICAN MANAGEMENT ASSOCIATION
PACKAGING EXPOSITION
1946
APRIL 2-5
PUBLIC AUDITORIUM
ATLANTIC CITY

Your visit to our Exhibit Booth No. 318 is cordially invited.

Branded more than a quarter of a century ago, Manhattan's venerable standard bearer is livelier today than ever...wise in the ways of all adhesives... and well qualified by successful experience to tackle the toughest kind of glueing problems. The satisfaction that comes with shaking out the right answers is what keeps Manhattan's "Leo" young and on all four paws.

So, whenever you're stuck for a glue that will stick—just crack the whip and Manhattan's Lion will immediately respond.

MANHATTAN PASTE & GLUE CO., INC.
Chicago · Philadelphia
Rochester · Boston
Columbus, O.
Lion Brand Adhesives
425 GREENPOINT AVENUE, BROOKLYN, N.Y.



"Package by Inland"

★ The modern treatment of large and bulky items.

★ Proper balance and bracing not only insure protection against breakage but give protection against damage to finish by having a tightly sealed package.

★ More attractive, easier to pack, and handle.

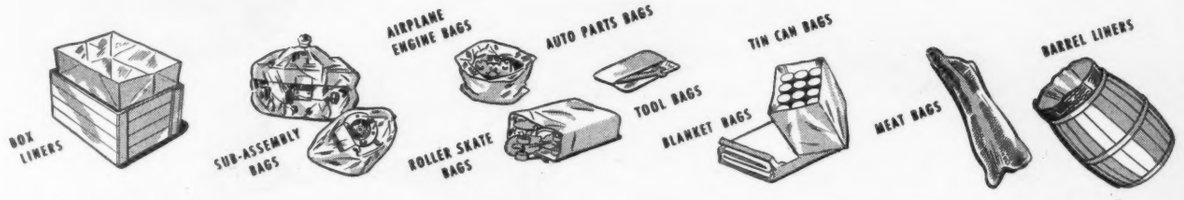
INLAND
CONTAINER CORPORATION
Corrugated Fibre Boxes

INLAND BOXES

Sales Offices: INDIANAPOLIS, IND. • EVANSVILLE, IND. • MIDDLETOWN, OHIO • CINCINNATI, OHIO
DAYTON, OHIO • CHICAGO, ILLINOIS • MILWAUKEE, WISCONSIN • DETROIT, MICHIGAN

Protective Packaging Problems?

CALL IN AN EXPERT TO SOLVE THEM



● Virtually every product on the market today requires packaging protection of one kind or another. But, because of the confusing variety of protective materials and methods now available, it's difficult and often impossible for anyone but an expert to determine which will do the job best and most economically for any given product.

That's where Kennedy enters the picture—because Kennedy fabricates packaging from *all types* of protective materials—Waterproof Papers—Kraft Paper—Pliofilm—Saran—Vinyles—Metal Foil—Cellophanes. So Kennedy is not "married" to any one material or method. Instead, Kennedy is free to decide open-mindedly which material and method will provide maximum protection for your product . . . at reasonable cost.

Whether your product requires protection against dirt, dust, water, moisture, vapor, air—one or all—Kennedy has the knowledge, the skill, the facilities to do the job, effectively, economically. Which suggests it's a good bet that Kennedy's the expert to whom you should turn with your packaging problems.

KENNEDY CAR LINER & BAG CO. • SHELBYVILLE, INDIANA

Canadian Plant: Woodstock, Ontario • Sales Offices: New York, Philadelphia, Chicago, Cleveland, Detroit, Kansas City, Los Angeles, Atlanta

FABRICATORS IN WATERPROOF PAPER · KRAFT PAPER
PLIOFILM · SARAN · VINYLS · METAL FOIL · CELLOPHANES

PACKAGING PIONEERS
Kennedy

JAR CLOSURES! IMMEDIATE DELIVERY!

A diversity of colors, styles and sizes including standard 33, 38, 43, 45, 48, 51, 53, 58, 63, 70, 83 and 100 mm.

They're here! Plastic molded jar closures are now in full production . . . and at a lowered price scale! New MACK MOLDING automatic set-ups permit greater production economies and efficiencies.

They're good! Plastic molded closures combine rigidity and strength with smart lustrous eye-appeal. They are sanitary, non-corrosive and easily cleaned.

They're accepted! Easily removed, easily replaced—just ask the customer. Write, wire or telephone us about your requirements; your inquiries will be treated in confidence.

If you are not already acquainted with the facilities offered by our three complete and up-to-date plants, the new 8 page booklet "MACK MOLDED EXCELLENCE" will be sent on request. Write for your copy today.

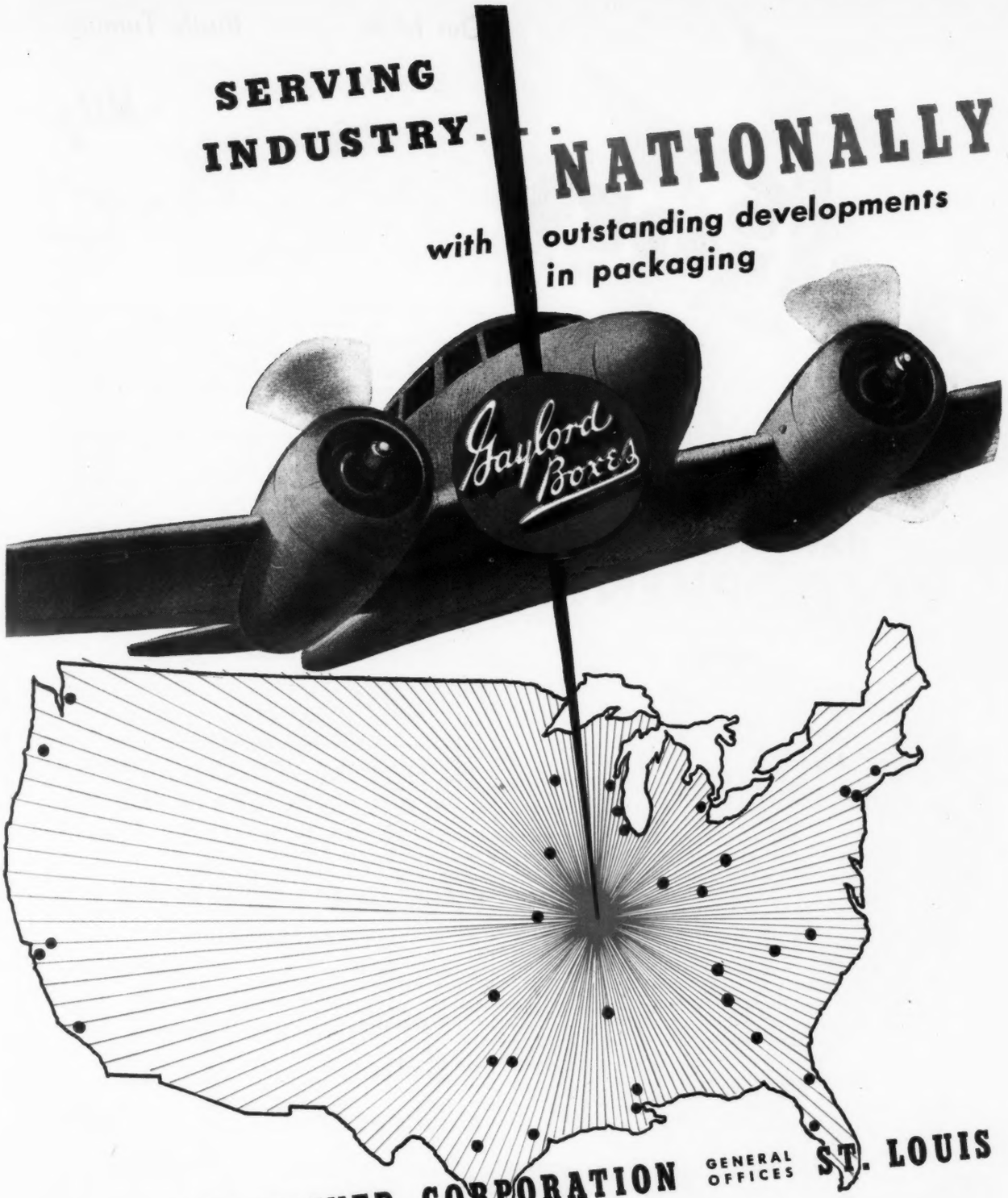
MACK MOLDING COMPANY
INCORPORATED
160 MAIN STREET, WAYNE, NEW JERSEY

Mack
MOLDED
EXCELLENCE

SALES OFFICES: NEW YORK CITY, CHICAGO, DETROIT, INDIANAPOLIS, BOSTON & ST. LOUIS

SERVING INDUSTRY NATIONALLY

with outstanding developments in packaging



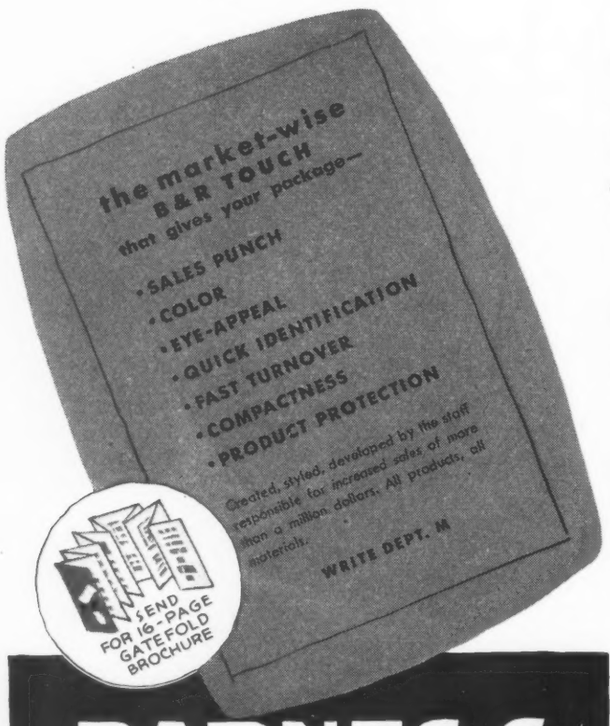
GAYLORD CONTAINER CORPORATION GENERAL OFFICES ST. LOUIS

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT GROCERY BAGS AND SACKS • KRAFT PAPER AND SPECIALTIES

New York • Chicago • San Francisco • Atlanta • New Orleans
Jersey City • Seattle • Indianapolis • Houston • Los Angeles
Oakland • Minneapolis • Dallas • Jacksonville • Columbus
Tampa • Fort Worth • Detroit • Cincinnati • Des Moines • Oklahoma City • Greenville • Portland • St. Louis • San Antonio
Memphis • Kansas City • Bogalusa • Milwaukee • Chattanooga
Weslaco • New Haven • Appleton • Hickory • Greensboro

action
WHEN YOU NEED IT FAST

PACKAGE design and DEVELOPMENT

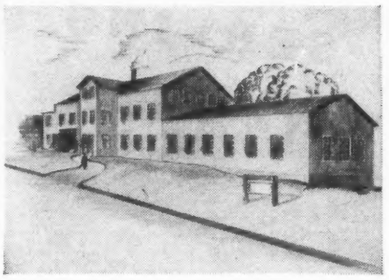


BARNES & REINECKE

INDUSTRIAL DESIGNERS & ENGINEERS
230 E. OHIO ST. CHICAGO 11

STAFF OF 181 · 12TH YEAR

Our Mills . . . *Busily Turning Out*



The Milgate Line of "Specialty Papers"

Due to the widespread scarcity of materials, production is confined to "Astex," an industrial waterproof wrapping; "Silver-glas" a novelty decorative sheet; Milgate thermo-plastic label paper; "Freez-Pac," a coated parchment with an extremely low MVTR rate, designed for frozen food packaging and "Sheencote," a high gloss, water and soil proof cover paper, available in white, black and red.

Eventually the post war Milgate Line will include all types of cloths, acetates, foils, boards, glassines, cellophanes and papers, "hot-melt," emulsion or solvent coated and/or laminated. Analine printing and roll embossing add to its versatility.

Mail us your inquiries . . . we will supply you with samples and price lists. New Milgate papers will be coming through regularly. If the paper you want isn't in production, samples and prices of all new items will be sent you promptly as the line is expanded. Send us your name . . . today.

PACKAGING DIVISION
E. W. Twitchell Incorporated
784 Public Ledger Building
Philadelphia 6, Pa.

WHEN AT CONVENTION HALL
ATLANTIC CITY APRIL 2-5
STOP AT BOOTH 37 AND SEE

Felins "pak-tyer"
Tying Machine

TIE IT
- Faster
- Better
- Cheaper

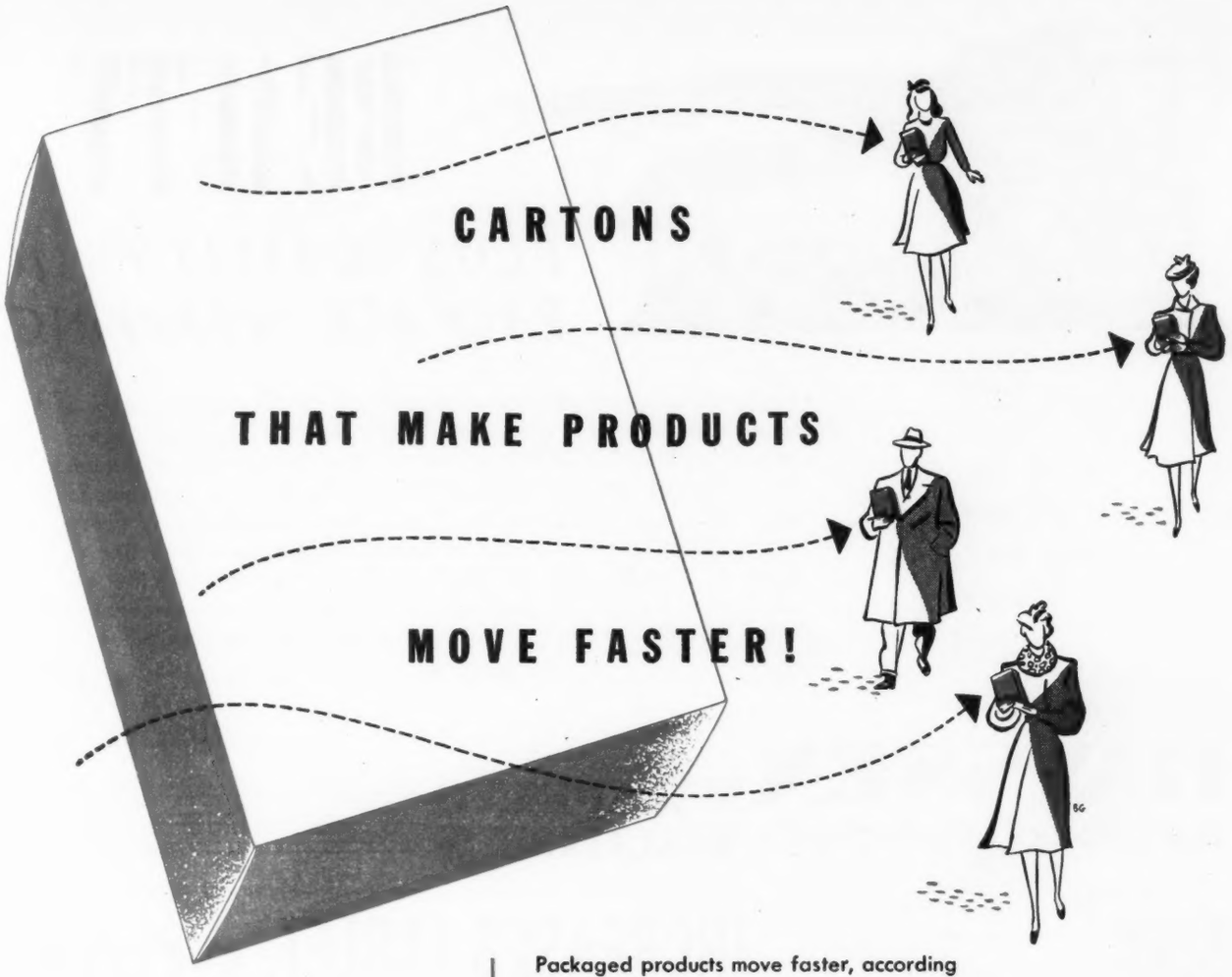
SAVES TIME AND TWINE

Complete line of packaging equipment including—
- HEAT SEALING MACHINES
- PACKAGE FILLING MACHINES
- POWER AND ROLLER CONVEYORS

Dept. 13

PAUL L. KARSTROM CO.
2620 SOUTH INDIANA AVE. — CHICAGO 16, ILL.

PACKAGE CONSULTING ENGINEERS



Packaged products move faster, according to a recent survey. Both dealers and shoppers prefer them. A. C. M. Clay Coated Cartons will make your products move faster. Their true-white, velvet-smooth surface, produced by an exclusive, continuous process (the secret of A. C. M. superiority) affords better printing—assures faithful, beautiful reproductions in either letterpress or lithography. This adds up to more eye-appeal, more buy-appeal in any language.

WHY A.C.M. CARTONS ARE BEST:

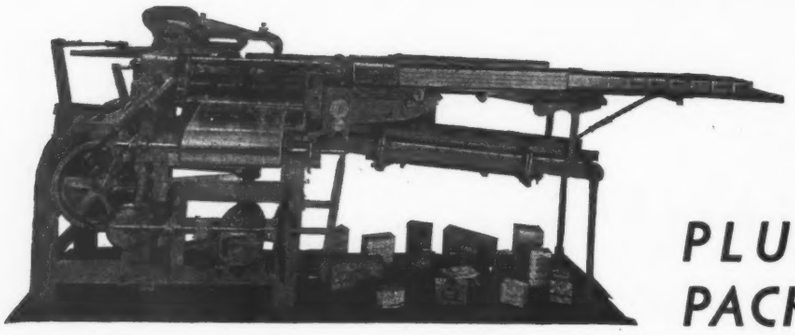
Whiter board—
velvet-smooth surface—more rigid—
tougher—better folding qualities—
greater lustre and brilliance—
perfect reproduction in either letterpress or lithography.

AMERICAN COATING MILLS, INC.
Main Offices and Plants—Elkhart, Indiana.
Branch Plant—Chicago.
Branch Sales Offices—Wrigley Bldg., Chicago;
271 Madison Ave., New York City.
Subsidiary—Modern Packages, Inc., Memphis, Tenn.

The Secret is in the SURFACE

AMERICAN COATING MILLS

A.C.M. CLAY COATED CARTONS AND CARTON BOARD



BEAUTY

PLUS UTILITY IN PACKAGE WRAPPING

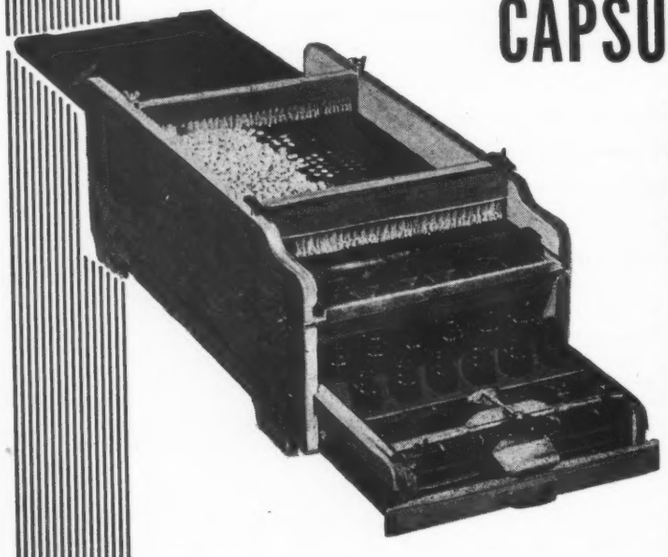
IT PAYS TO WRAP THE HAYSSEN WAY

Packages wrapped efficiently and attractively . . . . that's what you want and what you get, when you operate a Hayssen Carton Wrapping Machine in your production line. Requiring a minimum of floor space and low in operating cost, the Hayssen continues to meet the requirements of more and more manufacturers every year. If you have a special wrapping problem or would like to know how the Hayssen can help you do a better wrapping job, we suggest that you write the factory at your earliest convenience. More than 35 years of Hayssen experience is at your service.

HAYSSEN MFG. COMPANY • SHEBOYGAN, WIS.

HAYSSEN ELECTRONIC CONTROLLED **WRAPPING MACHINES**

INCREASES TABLET, CAPSULE PACKING 600%



The OTTA-MATIC tabulating and packing machine counts and packages tablets and capsules into cartons, bottles or envelopes. In specific cases (names on request) this little giant increases production as much as 600%. This machine is only 32 x 16", is light weight (55 lbs.) sturdy, completely sanitary, instantly adjustable to all sizes of tablets and containers. There is nothing to wear out or get out of order.

One user writes ". . . one of the best investments we ever made . . ." Another says ". . . we were able to bottle and label 250,000 capsules in six hours . . . ." This machine must be seen to be appreciated! Best quality materials are used throughout. Interchangeable loading and container racks are supplied.

A ten day free trial offer is your best proof of money saving, efficiency, accuracy, speed and durability. One year guarantee on each machine.

C. L. OTTAWAY MFG. CO.

200 WEST POMONA STREET • MONROVIA, CALIFORNIA

12,000,000 Canadians –

. . . your fastest-growing, closest export market. Pent up buying power through accumulated savings . . . extensive immigration plans assure you an ever-increasing demand for your products in Canada.

We're a packaging concern, equipped to package your goods in Canada, to suit the Canadian market. Providing a complete packaging service . . . we have benefited large numbers of Canadian manufacturers.

We are ready to go to work for you . . . write or wire today for information concerning your product's marketability in Canada.

ROWE PACKAGING CO. LIMITED

A Complete Packaging Service

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for Free-Running Frozen Foods

FASTER FILLING AND PACKAGING

FMC

CARTON FILLER

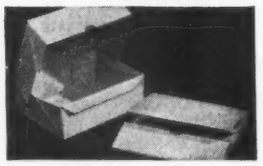
with Opener and Closer

Careful tests and on-the-job runs show that this combination of the FMC Automatic Filler and Cartons designed for automatic handling can *Double* production, with one-third or less of normal hand-pack crew! For details Write, Call or Wire us today.

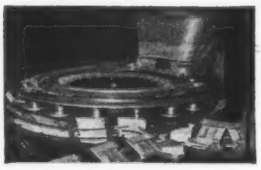
Also send for FMC catalog of all types, food-processing machinery and equipment.

AUTOMATICALLY

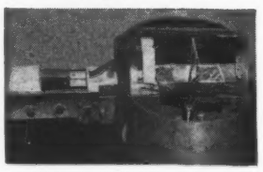
1—Sets Up Cartons



2—FILLS



3—CLOSES

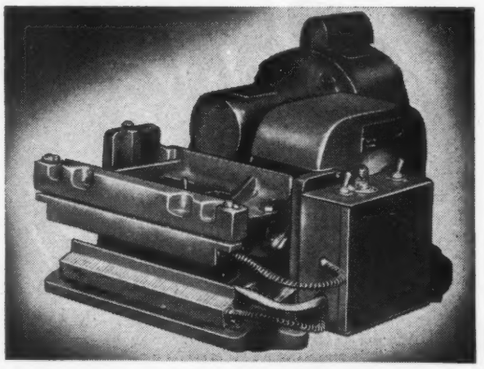


CF-201

Food Machinery Corporation

SPRAGUE-SELLS DIVISION • Hoopeston, Illinois

Heat Sealer



Wrapade automatic and semi-automatic heat seal machine handles foils, cellophane and other heat-sealed materials. It applies correct amount of heat and pressure in proper time cycle to make secure and lasting sealing. Can be operated with perfect efficiency by unskilled labor. Applies uniform pressure, resulting in sift-proof, tamper-proof, dust-proof and sanitary packages without glue or staples.
Saves its own costs in bag size, staples, glue, etc.
Prices and further information on request.
Now in use by many leading packagers.

WRAPADE
MACHINE COMPANY, INC.
1 Clinton St. Newark 2, N. J. Mitchell 2-3185

New PRODUCER *packager*

a solution to your packaging problem

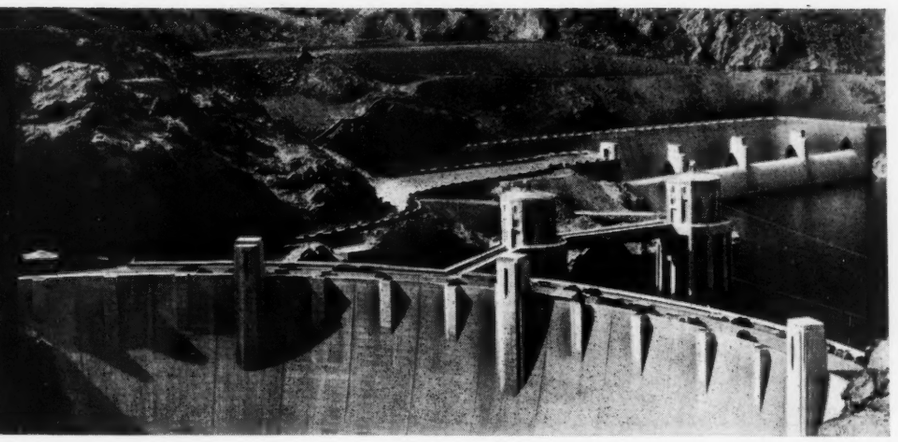
$1545

F. O. B. ROCK ISLAND

Tomatoes, butter, crackers, soup bunch, mushrooms, candy, spaghetti—anything you wish to overwrap with cellophane, glassine or wax paper. The new PRODUCER does it smoothly, speedily and at small cost. A versatile machine. Handles packages 3½" to 12" long. You change from one size package to another by the simple spin of a hand wheel. A matter of seconds. Write for complete information.

GELLMAN MANUFACTURING CO.
Specialists in Packaging Equipment—12th Year.
ROCK ISLAND ILLINOIS

Triumphs of Engineering



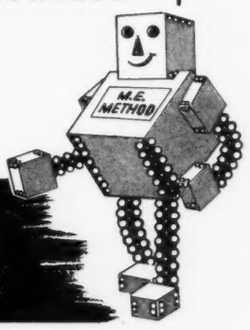
Boulder Dam, 726 ft. high, creating world's largest artificial lake

and METAL EDGE — *modern* engineered *method of*

PACKAGING • MATERIAL HANDLING • INVENTORY CONTROL

Versatility is the word for Metal Edge, the three-phased method engineered to fit the particular business.

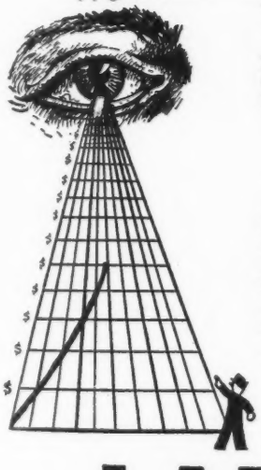
In almost every industry Metal Edge is paying outstanding companies handsome dividends.



NATIONAL METAL EDGE BOX CO.

334 NORTH 12TH STREET PHILADELPHIA 7, PA.

When Eye-Appeal Means Sales-Appeal



Your product looks better—sells better—when set off by a *Lanova* box or specialty paper.

- Metal Foils
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- Fancy's
- Velours
- Embossed
- Trade Marks
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- Flints

Large varied stocks maintained for immediate delivery. Write for sample sheets and books—on your letterhead, please.

Consult without obligation our staff of packaging-design experts—at your service always!

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LANOVA

LANOVA Lachman-Novasel Paper Co.

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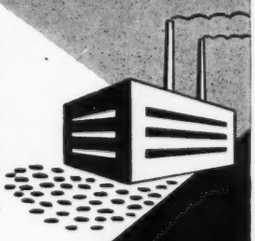
FINE WOODEN CHESTS BOXES · DISPLAY CASES

"From Standing Timber to Finished Product"

We specialize in the design and manufacture of silverware chests, jewelry and display cases, wooden boxes, packing cases and other wood containers. Your inquiry invited.



ROCK

Manufacturing Company

STOUGHTON, MASSACHUSETTS

THE
FISHER-PIERCE

HIGH SPEED
(Photoelectric)

Plug In Feature

REGISTER CONTROL

For Packaging and Wrapping Machines

HOW IT WORKS . . . The Fisher-Pierce High Speed Register Control has been designed as a component for either intermittent (stop and go) or continuous flow high speed wrapping and packaging machines . . . can be supplied with or without self-timed reset. In the former, intermittent type of machine, the stopping point of the wrapper is determined by the position of the register mark. In the latter type of machine, (continuous flow) an early or late appearance of the register mark, initiates a change in rate of feed for an adjustable interval.

HIGH SPEED AND AUTOMATIC . . . The intelligence is initiated in the photo control by the change of light intensity as the registration mark enters the scanner field of view. This change may be as little as 1 foot candle, and the duration of the change may be between 0.0001 second and 0.5 second. Scanners are designed to supply illumination and also hold the photo-tubes which operate from reflected light. By the use of separate Light Source and Photo-tube Housing, the unit operates from transmitted light. (A combination unit may be had if desired).

CHASSIS . . . The entire chassis of this device is so designed that it plugs into the housing as simply as a tube in a socket.

Scanner For Use With Fisher-Pierce Register Control

The Scanner is a compact single unit for reflected light, including both the light source and the phototubes. There are no critical reflection angles between the wrapping-medium surface and the scanner enclosure. This scanner gives at least twice the differential response of any other unit for the same material contrast and lamp intensity.

Machinery Manufacturers!
Send us your register problems.

FISHER-PIERCE COMPANY
80 CEYLON STREET
BOSTON 21, MASS.

TRANSPARENT BOXES
AND CANS FOR PROMPT DELIVERY

These clear plastic containers demonstrate the product at the point of sale. Especially fine for packing appetizing food products such as nuts, candies, cookies, pretzels, etc.

Made of transparent acetate. Odorless, non-inflammable, non-cracking. Send for samples and price list.

WEINMAN BROTHERS
Transparent Box Headquarters
325 N. Wells St., Chicago, 10

Some territories open for experienced packaging salesmen.

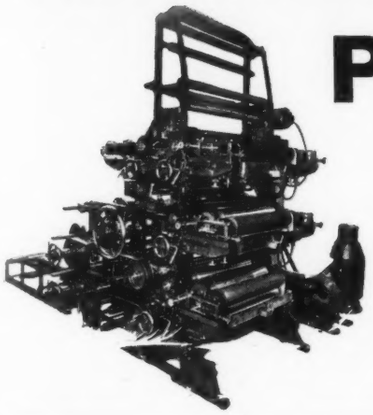
BUSCHMAN PORTABLE CONVEYOR
Cuts Handling Costs!

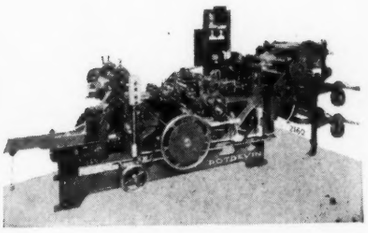
Save up to 30% in handling costs with Buschman Portable Conveyor. Standard sections, 10' and 5' long, convenient to carry from place to place where needed. Easily, quickly coupled together to any length, thru exclusive "Quick-Eez" feature. Curved sections available in 90° to 30° sizes. Mobile units are mounted on swivel casters. Stands are 4-legged, providing adjustable heights from 12" to 48". Low in price!

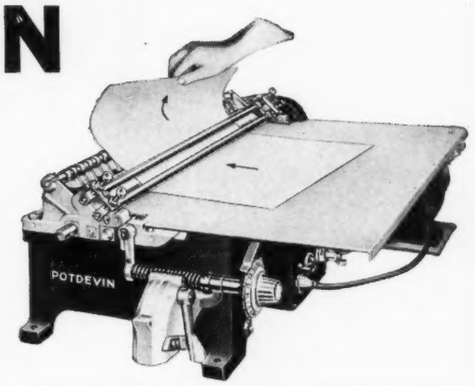
Write for Bulletin 10 Showing Applications

THE E. W. BUSCHMAN CO. INC.
Representatives in Principal Cities
435 New Street Cincinnati 2, Ohio

POTDEVIN







PMC 2981 POTDEVIN Model 304 (26 × 28-½) US&DSR, multi-color, multi-length, high-quality Aniline Web Printing Press equipped with unwind, slitters and dual shaft rewind. Note drying run for overprinting—continuous ink foun tain roller drive—synchronized infeed and outfeed of material.

PMC 2160 POTDEVIN Model 110L Cellophane Flat & Square (F&S), single or duplex bag machine. Note compensator and electric eye for registering print with the tube cut-off when producing printed bags from preprinted, rewound rolls of cellophane printed on Model 304 US&DSR (See PMC 2981). Resulting bags have lips and rolled edges.

PMC 1921 POTDEVIN Gluers 12", 21", 27" and 32" wide, for gluing labels, trim strips, tight wraps, lining papers, fancy imported papers, cloth, leatherette, etc., rapidly and uniformly. Proven practical when end labeling and top labeling all types of set-up paper boxes and as utility machines for table work.

PRINTING PRESSES

PAPER BAG MACHINERY

GLUING and LABELING EQUIPMENT

POTDEVIN MACHINE CO.

1244 38th Street
Brooklyn 18, N. Y.
Tel: Windsor 6-1700

Est.: 1893

Disf. Rep: Mr. Arthur Prausnitz
122 S. Michigan Blvd.
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WAXES

For paper board impregnation

ZOPHAR MILLS 100 YEARS

FOR DIP COATINGS
EMULSIFIED WAXES
COATING WAXES

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Meet Army and Navy specifications
WAXES FOR FUNGUS PROOFING
Our laboratory will welcome your problems

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Zophar Mills, Inc. has been known for its dependable service and uniformity of product since 1846.

ZOPHAR MILLS, Inc.
Established 1846
106-26th Street • Brooklyn 32, New York

AUTOMATIC VOLUME MARKING

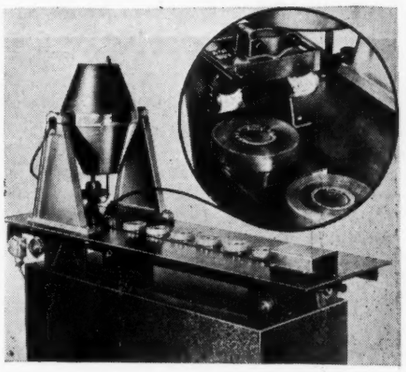
MARKOMATIC 143 CODE DATES & MARKS

FACE POWDER BOXES

SMALL CANISTERS

SMALL RECTANGULAR METAL BOXES

SMALL FILLED CARDBOARD CARTONS



Markomatic 143 is a complete unit that may be installed on the packaging line. It code dates or otherwise marks products automatically. Instantaneous kiss impression—no smear or blur. Automatically ejects product down a chute or may feed the next operation. Production from 2000 to 4800 per hr. depending on product. Inks available to mark any surface.

Illustrated is Markomatic 143 furnished International Plastics Corp., Morristown, N. J., for code dating the narrow rim of tape cores. Without adjustment, this machine marks cores 1/2" or 3/4" thick on the same line!

Other code dating equipment available to mark any object, large or small, flat or curved.

Have You A Marking Problem?
Write Today — No Obligation

MARKING EQUIPMENT

ADOLPH GOTTSCHO, INC., 183 Duane St., New York 13, N. Y.

Clearseal

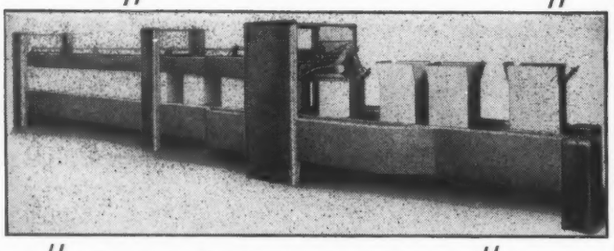
NEW PLASTIC COATED FOILS, FABRICS AND PAPERS TO WATERPROOF AND MOISTURE-VAPOR PROOF PACKAGES. ALSO, PROTECTION AGAINST MILDEW, ACID, DAMPNESS AND RUST.

"The Miracle of Plastic Coating"
mailed on request

CLEAVELAND
LABORATORIES AND MANUFACTURING CO., INC.

Pioneers in the application of Plastic Coatings to Textiles and Paper
Peapack, N. J., 7905 Empire State Bldg., New York, N. Y.
Sole Distributor: NATIONAL COATED PRODUCTS CO., 40 Worth St., New York (13) Tel. Rector 2-5446

Designed for Efficient Packaging



ABC Automatic Top and Bottom CASE SEALER

Modern, streamlined design . . . requires no operator. Seals 30 cases per minute . . . both top and bottom, top only or bottom only. Fingertip control. Extra-rigid construction. Adjustable to 6"-18" width, 8"-30" length, 3"-28" height.

Special Engineering Service

Packaging machines correctly designed and constructed to fit your own special requirements.

ABC PACKAGING MACHINE CO.
QUINCY, ILLINOIS

ROLL TO ROLL
LAMINATING

Varied paper stocks combined to specification; also cloth to paper, etc.

•

RUBBER-PLATE
WEB PRINTING

Repeat designs of varied lengths, in color. Also intaglio printing. Roll work only.

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FULLER DISPLAYS INC.
Paper Converting Division
515 West 56th Street, New York 19, N. Y.

It's time to think about...

informative labeling!

Just before the war, McLaurin-Jones published a comprehensive booklet "Handbook of Informative Labeling," which gained wide acceptance as a reference and idea book about the correct labeling of merchandise to "present the facts upon which the purchase depends."

During the war, however, the only fact upon which a purchase depended was whether or not the merchandise in question was in stock.

With the return of merchandise to the shelves and counters of the nation, competitive selling will once again bring Informative Labeling to the fore. Confronted with a choice of merchandise, the consumer wants to know more about the articles from which the selection is being made—in order to make an intelligent decision. "The salesperson may be busy elsewhere; she may be tongue-tied or disinterested; the informative label has the unique opportunity to close the sale."

With the upswing in the need for informative labels, you will do well to read the "Handbook of Informative Labeling" (we have extra copies, available upon request). Get acquainted with this renewed opportunity to sell more creative printing. The increased use of Informative labels for product identification opens new avenues of approach for printers and advertising men alike.

WRITE TODAY
for your copy of a "Handbook of Informative Labeling."

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COMPANY

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BROOKFIELD, MASS.
OFFICES: NEW YORK • CHICAGO • LOS ANGELES

SPECIFY McLAURIN-JONES GUARANTEED FLAT GUMMED PAPERS

TUBES AND CONTAINERS FOR EVERY PURPOSE

We manufacture paper cores, mailing tubes, ribbon blocks, spools, paper boxes and cans with metal ends, curled ends, paper cap ends. Noted for fast production—any length, diameter, wall. Containers developed.

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FACTORIES: LOWELL, MASS. • AUGUSTA, ME.

WET or dry waxing machines, wax coaters and wax laminators. Sheet waxing equipment for fibre or corrugated box blanks — Aniline printers, sheeters, winders and interfolders. For quotations—

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MACHINE CO • GREEN BAY • WIS

Decorators on Glass and Plastic Containers Since 1936

4 Colors in One Operation —Finest Detail

Amigraphic Process, Inc.

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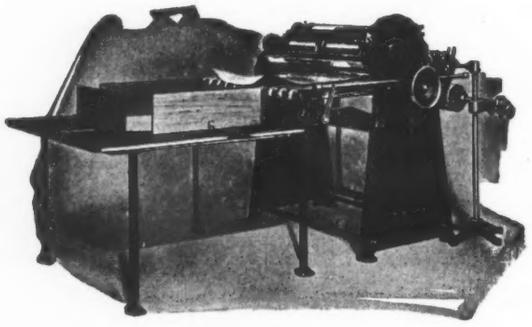
ARE YOU EQUIPPED to meet **RE-CONVERSION** and its acutely keener competition?

BECK SHEETERS designed and built for the mastery of accuracy and low costs, possible only through their dependable and automatic operation: these can be the unfailing answer to your needs.

Equipped with **ELECTRIC-EYE** and **SHEET-PILER** with AUTOMATIC LOWERING TABLE represents the latest in high production, automatic sheeting work.



CHARLES BECK MACHINE CO.

13th & Callowhill Streets Philadelphia, Pa.

Finishing Can MAKE A Package

Finishing—the final touches—can make or break your package. We specialize in every type of finishing operation — varnishing, lacquering, gumming, die-cutting, embossing, punching, straight cutting, paraffining — and offer our special process: LUSTRALITING.

JOHN W. CRAWFORD CO.

Est. 1859

160 VARICK STREET, NEW YORK, N. Y.

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TUBULAR *Paper* PACKAGES

Tubular Paper Packages have very wide use under present post-war conditions. They are sturdy, lightweight, and can be attractively decorated in a wide range of colors.

DIAMETERS: 1/16" TO 2½" IN ANY LENGTHS

Ask for Quotations

DIAMOND STRAW & MACHINE CO

114-116 East 16th Street
New York DIAMOND N. Y.

★ Here is an exciting new kind of label. It adheres firmly to any smooth surface—metal, plastic, glass, wood, painted or varnished. Won't dry out and fall off—yet like magic is easily peeled off in one piece without leaving a trace! ★ At last you can place instructions, warnings, tradenames, describe finishes, point out features, directly on the product at the very place such data should be carried. ★ When these Kum-Kleen stickers have served their purpose, they may be peeled off without scraping or tearing—a feature your customers will appreciate. ★ They are quickly applied without moistening—are available in any size, shape or color, printed to your specifications. ★ These are the same famous stickers so widely used in war and peace time production to carry instruction, rejection and inspection data.

Send for sample and complete information Address Dept. **MP-3.**

AVERY ADHESIVES, 451 E. Third St., Los Angeles 13 · New York, Boston, Detroit, Chicago, Pittsburgh, San Francisco, Atlanta, Kansas City, Mo. In Canada, Enterprise Sales, Toronto

AVERY **Kum-Kleen** STICKERS

LET US DO YOUR PACKAGING FOR YOU

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We can save you

MONEY and TIME

because— We act as the packaging department of many concerns packing all types of dry powders, chemicals, cosmetics and household products in folding boxes, cans, set-up boxes, round paper packages or envelopes.

because— We have machines already set for automatic

MIXING
FILLING
WEIGHING
LABELLING

and most important— We have the manpower, the organization, the know-how. We will handle all or part of your packaging operation.

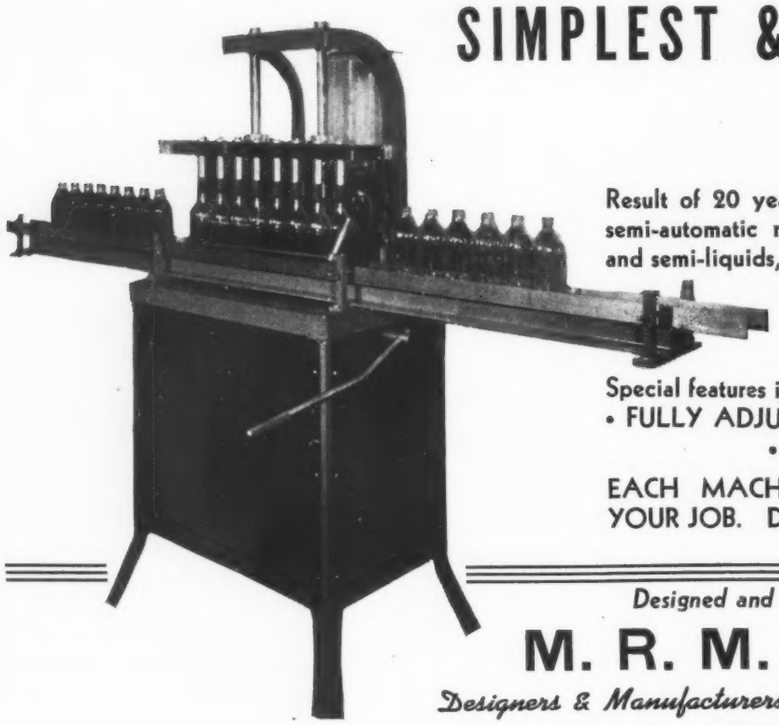
WRITE OR PHONE

THE STEVENS-WILEY MFG. CO. INC.

Hancock, Palethorp & W. Berks Streets

Philadelphia 22, Pa. REGent 1616–1617

NEW *Dripless* LIQUID FILLER
SIMPLEST & STURDIEST ON MARKET



Result of 20 years manufacturing experience, this new semi-automatic machine will feed all types of liquids and semi-liquids, such as heavy LOTIONS and SHAMPOOS, at a high rate of speed (40-50 pint bottles per minute, other sizes in proportion).

Special features include: • Fully automatic overflow.
• FULLY ADJUSTABLE FROM 1 OZ. TO 1 GALLON
• Supplied in 8-10-12 spouts.

EACH MACHINE IS CUSTOM BUILT TO DO YOUR JOB. Demonstration can be arranged.

Designed and Manufactured Exclusively by

M. R. M. COMPANY

Designers & Manufacturers of Fillers, Cappers and Conveyors

223 East 106th St. NEW YORK 29, N. Y. LEhigh 4-0207-8

Good Package Design

PACKAGING FOR ALL ITEMS IN A BRAND LINE

Attractive packaging makes merchandise desirable. . . . It is the silent salesman of your product on retailers' shelves.

Recognized for their contribution to outstanding design in modern packaging, the ability and experience of the WLS staff of artisans are at your service.

Interview with Principals • No Obligation

36 Pages . . . 420 Pictures . . . an Exhibit of Performance
Write for a copy of it Today on your business letterhead

AMERICA'S LARGEST ORGANIZATION SPECIALIZING IN MERCHANDISE PRESENTATION

W. L. STENSGAARD AND ASSOCIATES, INC.

346 N. JUSTINE ST. • CHICAGO 7, ILLINOIS

package designer wanted

We are a leading California firm with big production facilities in the paper board packaging field, including paper mills and folding box, set-up box, corrugated and solid fibre container departments.

We need an ace package designer . . . a man who knows the scope of modern package-making equipment . . . a man with extensive experience in package designing FROM THE GROUND UP . . . an aggressive man who is young in spirit, though not necessarily in years . . . a man wth creative talent tempered by practical know-how.

To such a man we offer an excellent opportunity. If you are positive that you fill these requirements in every respect, write in confidence, giving your age, pertinent personal information, education and experience. Attach a recent photo of yourself and be sure to state your starting salary requirements.

● *Box 398D*

MATERIALS HANDLING ENGINEERS

SPECIALISTS

To effect cost reduction and safety improvements in materials handling.

Previous experience in material handling applications is essential. Experience should include work on screw, belt, and roller conveyors, fork and lift trucks, tractors, etc.

Applicants should be between 28-40 years of age with engineering degree or equivalent and willing to travel.

Excellent opportunity for qualified men.

E. I. DU PONT DE NEMOURS & CO. (INC.)
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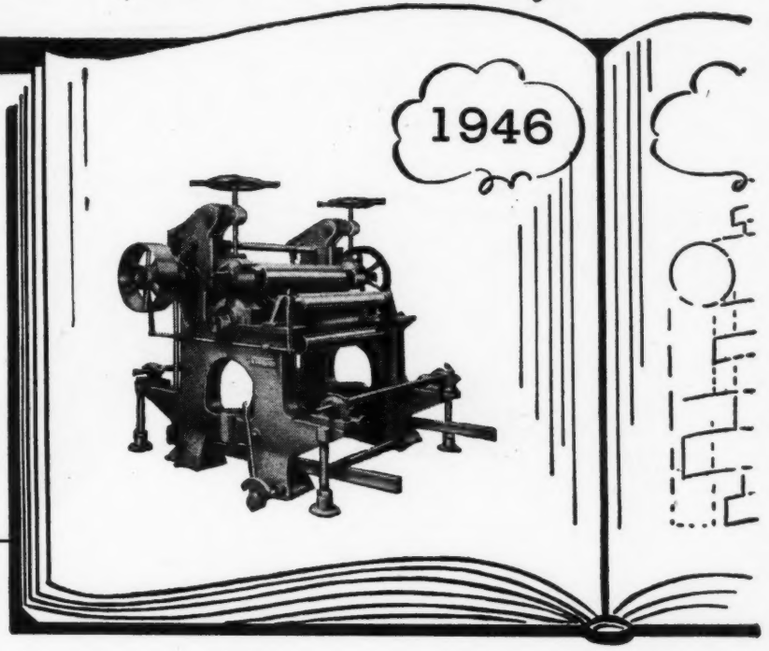

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C-3

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correct moistening!

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MODERN PACKAGING

Published by Modern Packaging Corp.

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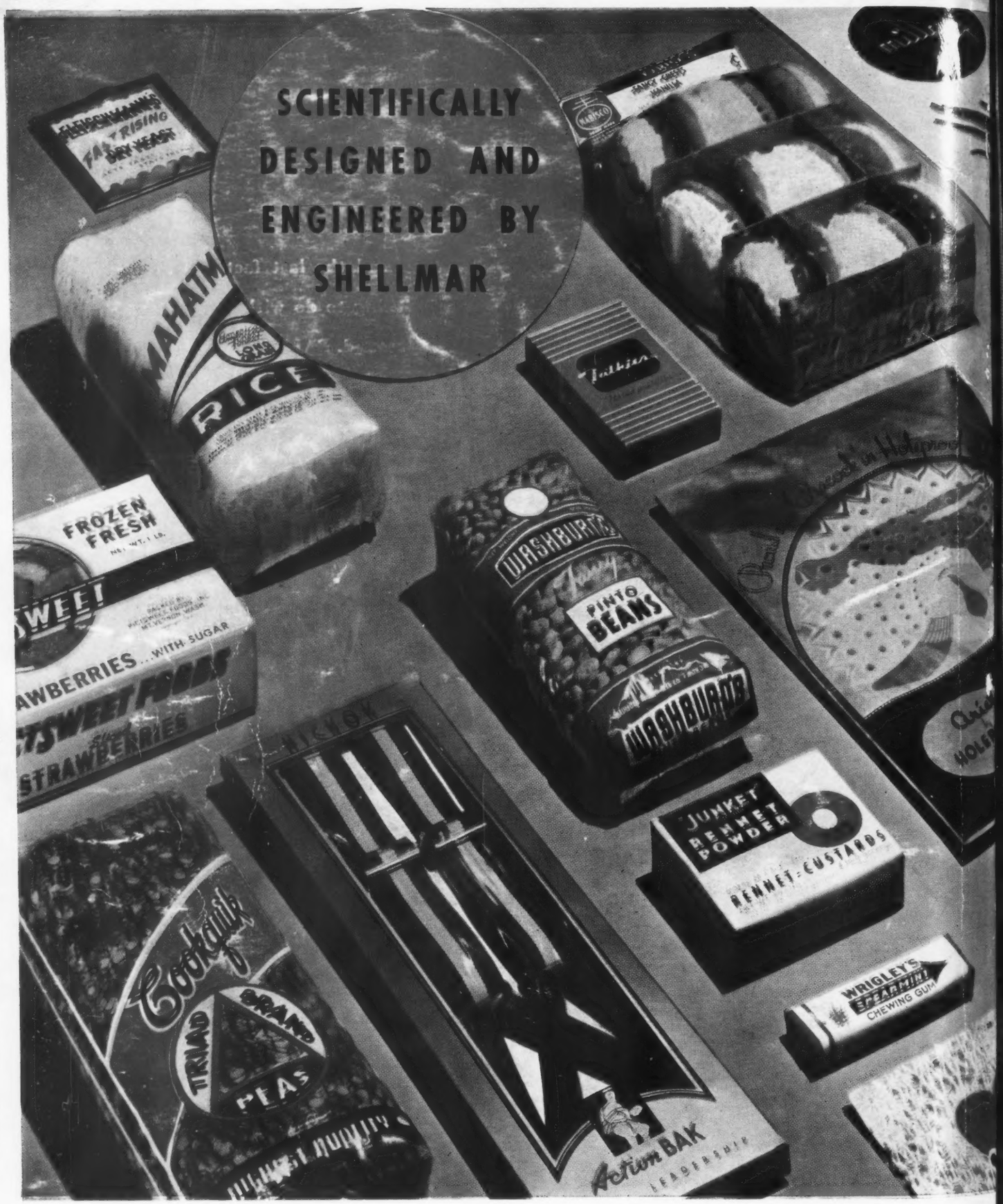

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